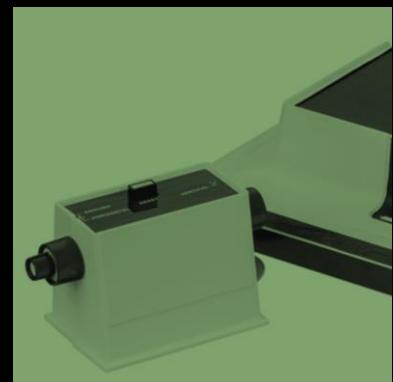
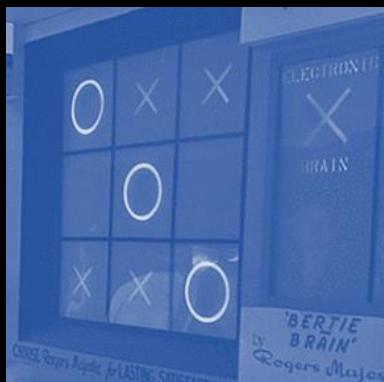


**THE VIDEO GAME YEARS:**

# PRESS START

- The Birth of Video Games -



(Before the year 1977)

**BY PAUL DRISCOLL**

This book is dedicated to all the video game pioneers and the wonderful retro community whom helps keep the knowledge and gaming history alive.

I also want to give special thanks to Mads Darø Kristensen for his wonderful help and patience in proof reading this book and helping improve it immeasurably.

Also Shaun Holley of the Ten Pence Arcade podcast. When I first mentioned to him my plan to undertake writing this book, Shaun kindly gave me a stack of his own research and his own personal expertise and helped ensure this book was accurate.

Finally I want to dedicate this book to my wife and daughter, who allow me to spend so much time writing this book and following my video gaming passions.

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# About the Author

I have been in love with video games for as long as I can remember, and as time has gone on, I have amassed a huge video game collection, and spent countless hours not only enjoying playing all those classic games, but understanding all about the history of video games .

For a number of years I have been an active member of the retro gaming community, doing an in-depth You Tube video series on video game history. This was stored and used as additional reference in a course at Stanford University and has also been used at other universities that cover video game development.

After this I joined the podcast Retro Asylum, an award winning, number one retro gaming podcast. For them I produced a number of free digital books on retro video games, that was extremely well received by the retro gaming community.

## Notes on the Book

This book has been built ground up with the Kindle Fire and tablets in mind, so I have kept the font large to minimise the need for you to zoom the pages, and be comfortable whilst reading.

I have tried it on multiple tablet devices with different size screens, and hopefully I have found that perfect balance, where it remains a comfortable read for almost any electronic reading devices.

I have also tried to take advantage of the e-book format, by giving you video links wherever I can of the game or console I am discussing. These links have also been given visibly so they can be typed in manually, in case you are on a device where PDF hyperlinks aren't allowed. All in all I hope it will be a great experience for you.

# Introduction

For a long time I have wanted to try and tell the story and history of video games in detail. I have always found it absolutely crazy, that one can go to a book shop and see whole shelves full of books that are dedicated to other mediums, such as films, TV, music and the like. Yet for video games, there are scarcely any, and for the ones that are written, they are either focussing on a tiny, specific area, or present a sweeping overarching story that only covers the broadest strokes. Also a lot of these books were done by American authors, and so are entirely US focussed, missing out in detail, the important European and Japanese story of video games, which took very different paths.

I felt there was a definite need for a video game history book series, that tried to find the balance of telling the story in detail, but still giving that sense of the wider story, whilst not bogging the reader down with heavy, overbearing techno babble. But how should one go about it?

I therefore decided to do a book series, where each book focuses on a single year, and that I would design it ground up to be an e-book so it could be cheap and affordable enough for those wishing to read the detail of the overarching story, but still accessible enough for someone to pick up just a single year, or those years that simply interest them, and still be satisfied.

The idea of the series moving forward is to not only cover all the key video games and consoles released, but also to give the wider context of popular culture, such as films, TV, music, toys and of the main news around that year.

However in this first book in the series, I thought it prudent to cover multiple years, going right from the birth of video games, through to just before 1977, when video gaming became truly a popular and a main stay phenomenon.

Now to take on such a project is exceedingly daunting, and wouldn't be possible for one person in a void to do. I therefore have utilised the fantastic work of the wider retro gaming community, who has tirelessly and relentlessly, attempted to catalogue and preserve this important gaming history, and share that information, making this book series possible.

For my part I see myself as merely a guide, who has attempted to string together the dizzying strands of this research and information out there, and offer the reader a hopefully interesting and cohesive narrative, as I take you through this fascinating history of video games.

But I cannot stress enough, how vitally important the retro gaming community's work is. People always fail to see the importance of preserving history until it is too late, especially with what they see as unimportant and disposable entertainment..

Take movies for example, it is estimated that 90% of all films made before 1926 has been lost to us. 70% before 1923, and over 50% before 1950. These include such important films such as, The Cleopatra (1917), After Midnight (1927), and Lon Chaney's 1928 film the Patriot, to name but a few. Sadly, the people in that first generation, didn't think it important enough to keep the films, or store them safely. Only later generations would appreciate the cultural importance of preserving such works, but by then it was too late, with most of these movies now being lost to us.

Thankfully for video games, we are still that first generation, and thanks to an army of retro gaming enthusiasts across the globe, a large percentage of these video games will still be available for future generations to cherish.

Anyway I hope you enjoy the book

**- Paul Driscoll (A.K.A. The Drisk)**

# Press Start – Video Games Before 1977

To describe the beginnings of ideas, especially when it is in the fast moving field of technology, is always exceedingly tough.

In reality video games, like many ideas, was an evolution, that all culminated finally to the video games we know of today.

You could say for example, that to tell about the beginning of video games, you must go back to Bagatelle tables or Pinball? Or maybe you should begin at the countless mechanical arcade games at the sea side.

Or perhaps you should go way back to before such games to the earlier computer pioneers. Such as in 1652 and Blaise Pascal's work in mathematics. This after all, would help lay the foundation of the maths, that would help make such computers possible.



Bagatelle was an early forerunner to Pinball.



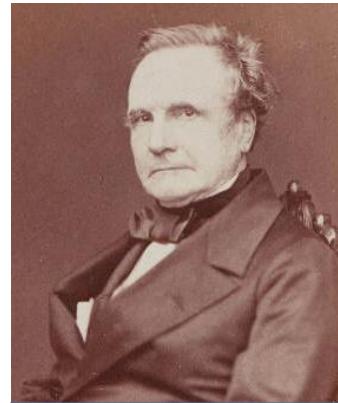
Blaise Pascal  
(9 June 1623 –  
19 Aug 1662)



SEGA would first make a name for itself with games in 1966, and the mechanical game Periscope.

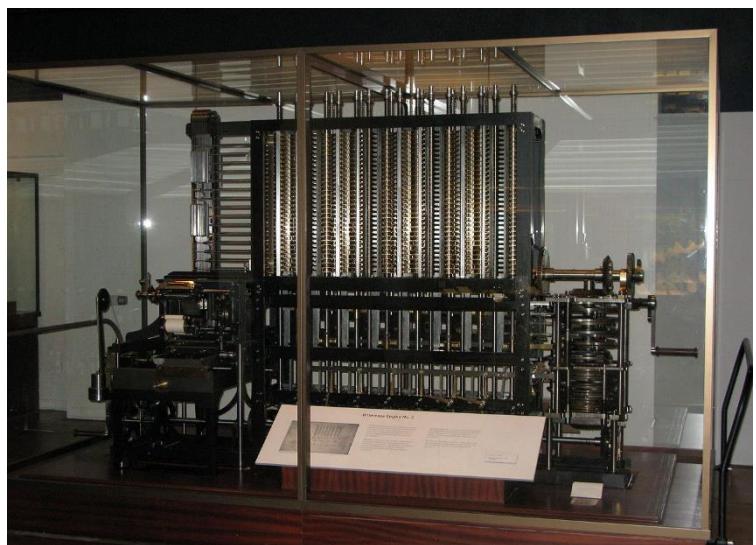
Or maybe we should look to actual concepts of the computers themselves? In which case England's Charles Babbage would be a prime candidate. His designs for the Difference Engine in 1822, would really be the worlds first automated calculator machine. Sadly, he never built it in his life time (due to the funding falling through).

But it was a marvellous device, that would do complex computation of up to 32 digits, and is one of the fathers to the computer we know of today. He even did a design to work with the device that printed the results. Amazingly in 1991 his designs was actually built and worked perfectly.



Charles Babbage  
(26 Dec 1791 –  
18 Oct 1871)

Alan Turing  
(23 June 1912 –  
7 June 1954)



Sadly Babbadge' Difference Engine was never completed in his life time. But in 1991 the London Science Museum successfully built the device (and later his printer designs) proving his designs worked completely.



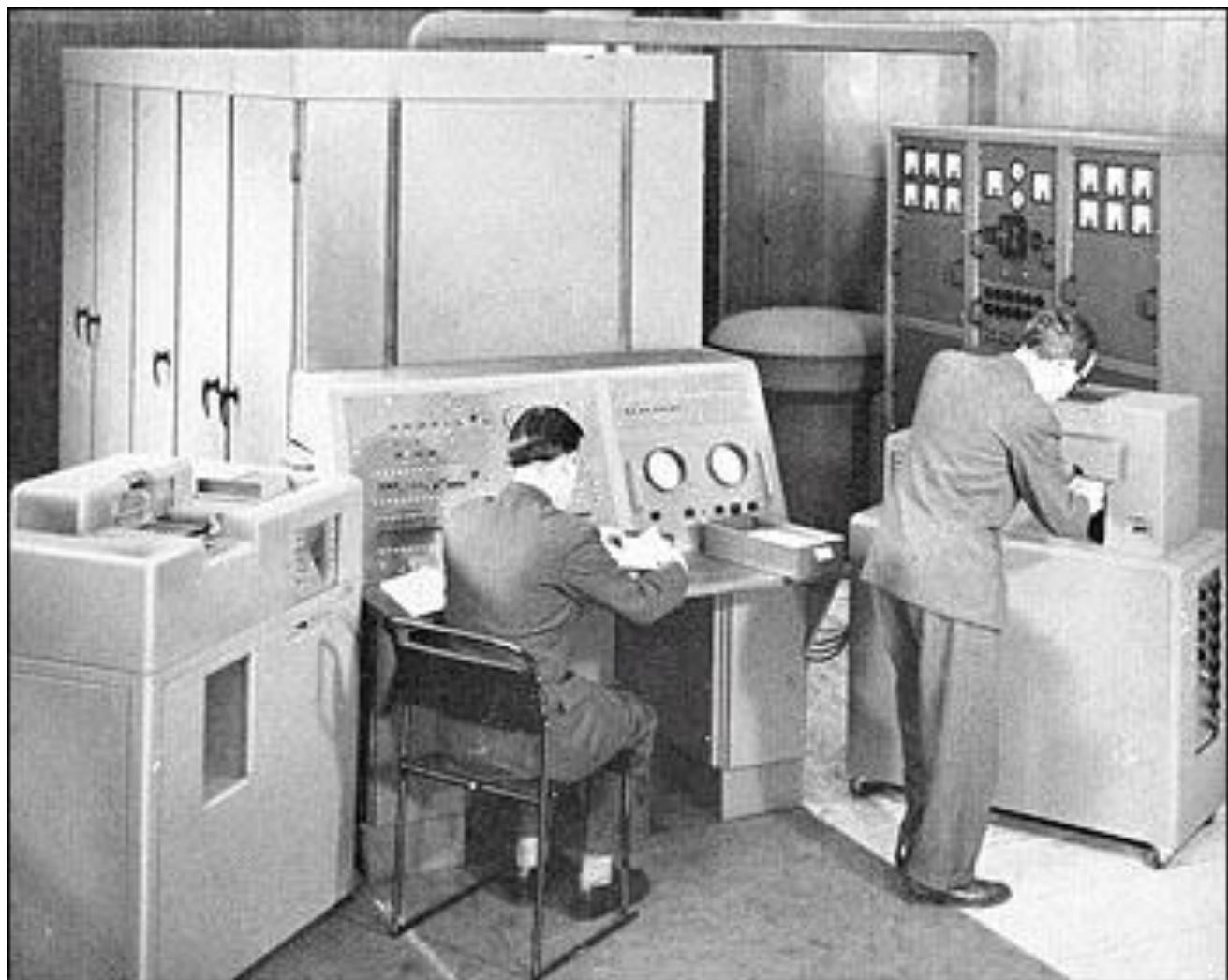
← The Enigma machine that the Germans thought would send unbreakable coded messages.

A reconstructed Bombe machine → that decrypted the Enigma machine.



Other people suggest that perhaps we should begin with computers that was actually built. Such as Alan Turing, who of course would (with a team) build his “Bombe” device. This was an electro mechanical machine, that from 1939 helped decrypt the Germans Enigma code, and so was instrumental in helping the allies win the war.

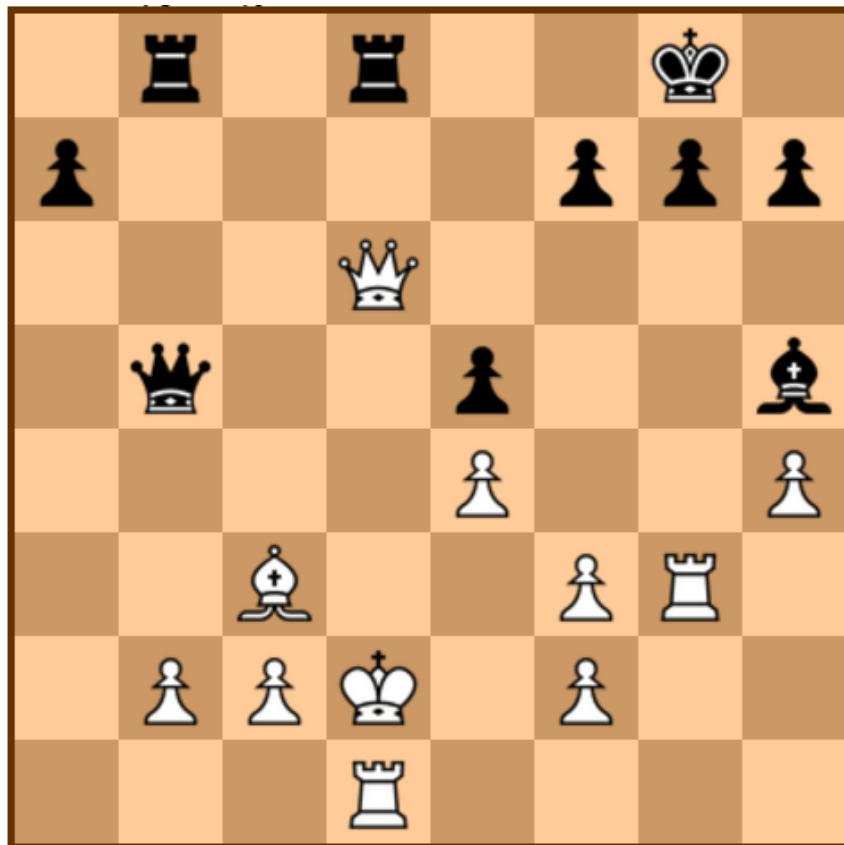
After the war he worked and improved his designs, with the Automated Computing Engine (or ACE), which was conceptualised in 1945 with his designs finally being produced and sold in 1955. The computer was made by the English Electric company and called DEUCE (Digital Electronic Universal Computing Engine). It was an impressive machine as well, being able to store quite complex programs (up to 8,182 words in a magnetic drum).



The DEUCE was sold from 1953 to 1964 selling 33 machines.

But of course none of these elements are actual video games, just laying the foundations of computers which video games would use. Perhaps the best candidate therefore, for the world's first video game program would be Turing's work after the war. For in 1947 Alan Turing, working with D.G. Champernowne, would write a computer algorithm to play chess.

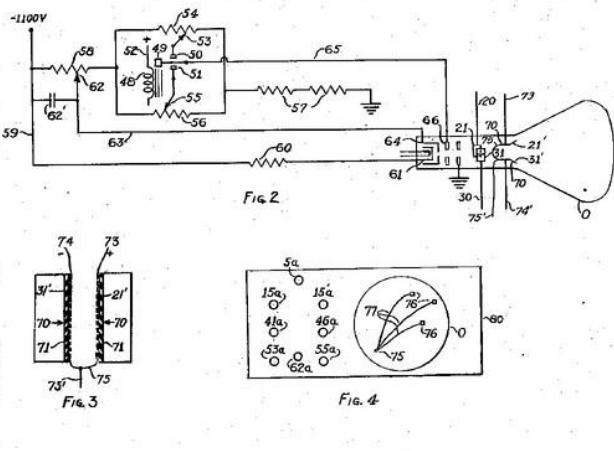
Sadly computers simply were not powerful enough at that time to actually handle such a complex program. Never-the-less, in 1952 Alan, acting as the computer himself, was able to prove the program worked, when he played a colleague Alick Glennie. The program did lose that first game in 29 moves, but reportedly did beat his wife on his second game. Fascinatingly the chess moves made were all recorded, and so we can see, move by move the first video game program ever played (all be it, not on actual computer). Still regardless, it is an important part of video game history.



The First ever game of Chess played by a program was in 1952, where Alan Turing played Alick Glennie. The game moves can be seen here...

<http://goo.gl/ndt9zY>

Another duo who was thinking about video games at this time, was Thomas T. Goldsmith Jr. and Estle Ray Mann over in America. They would place a patent on the 25<sup>th</sup> January 1947, for the Cathode Ray Tube Amusement Device. This would have the player direct a pinpoint of light using two dials (think like an etch-a-sketch), and line up to a painted airplane target on the screen. The player only had so long to target the plane and fire before the time ran out. The system would know the co-ordinates of the painted plane, and so it would know if the player had successfully shot the plane or not. On a successful hit, the machine would defuse the dot of light and so simulate an explosion. Sadly due to costs of components, the idea wasn't viable at the time, and only a few handheld, concept prototypes were ever built, before the idea was finally abandoned.



Part of the diagram from the patent filed, depicting how the device would work.

To see the complete patent that was filed, you can go here  
<http://goo.gl/fxs0ML>

A drawn depiction of how the Cathode Ray Amusement Device would look.

Sadly it never saw production, but was a revolutionary and interactive way to use the new CRT technology.

Meanwhile over in Canada, an amazing game was on display, in the Canada National Exhibition of 1950. That game was designed by Josef Kates and affectionately called Bertie The Brain. This 4 meter tall device had a lavish display and keypad, which allowed players to play the computer at Tic Tac Toe (Noughts and Crosses).

The game was made as a curiosity for the Rogers Majestic Vacuum company. It was a remarkable device, impressing many at the time, with the game even having varying difficulty levels of play.

The device even had a photo taken, by a LIFE magazine photographer, with comedian Danny Kaye actually playing the computer game for the reporters. Bizarrely LIFE magazine never did an accompanying article, and so the picture was never used.



Bertie the Brain being played by comedian Danny Kaye for LIFE magazine. The game of Tic-Tac-Toe really does deserve credence as the first built video game.

Sadly after only a few weeks on show, the game, seen as little more than an oddity, was dismantled after the exhibition.

To know even more about the development of this fantastic machine, then please read this wonderful article on it here...

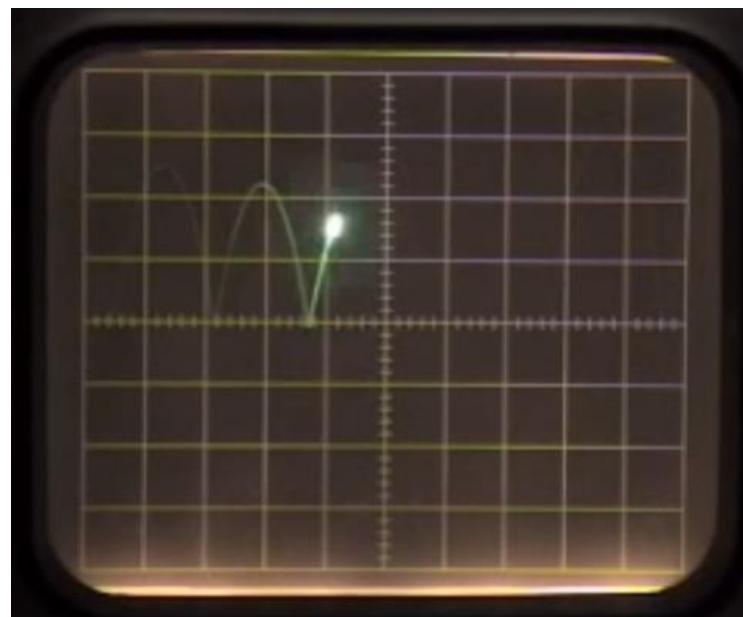
<http://goo.gl/Aut4WX>

Another area of computing that should also be noted at this time, was the 1950, Bouncing Ball demo. This would be written at MIT on their new Whirlwind computers, and displayed a ball accurately bouncing in real time. Whilst not a game, it was the first time that real time physics had been used on a computer, to simulate a real world object. An example of the program running can be found here, although the original would have been on an oscilloscope screen.

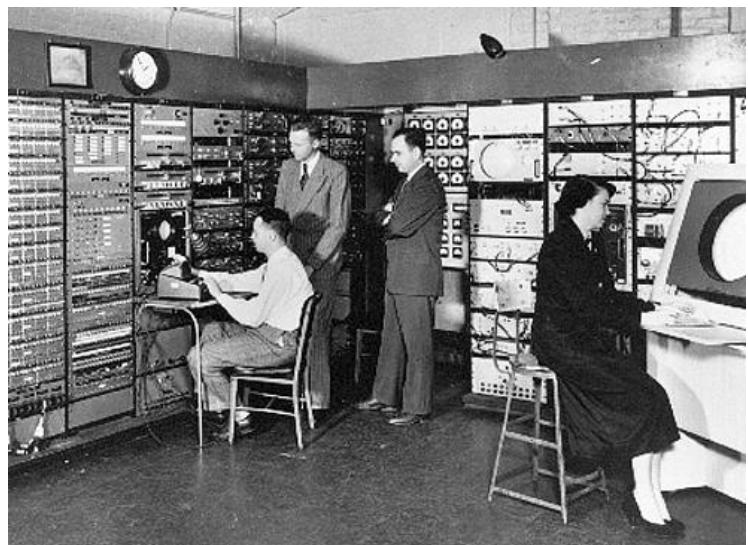
<https://youtu.be/0EeBZES6s1U>

Perhaps a better example of how it looked like can be seen here. This is a ball bouncing example from EA78751 channel on YouTube...

<https://youtu.be/qt6RVrmvh-o>



A Whirlwind Computer circa 1950 in MIT University.



Over in the UK meanwhile on the 5<sup>th</sup> of May 1951, the Festival of Britain would also impressively show another video game to curious punters. That game was called Nimrod by John Bennet and Raymond Stuart-Williams and was made for the company Ferranti.



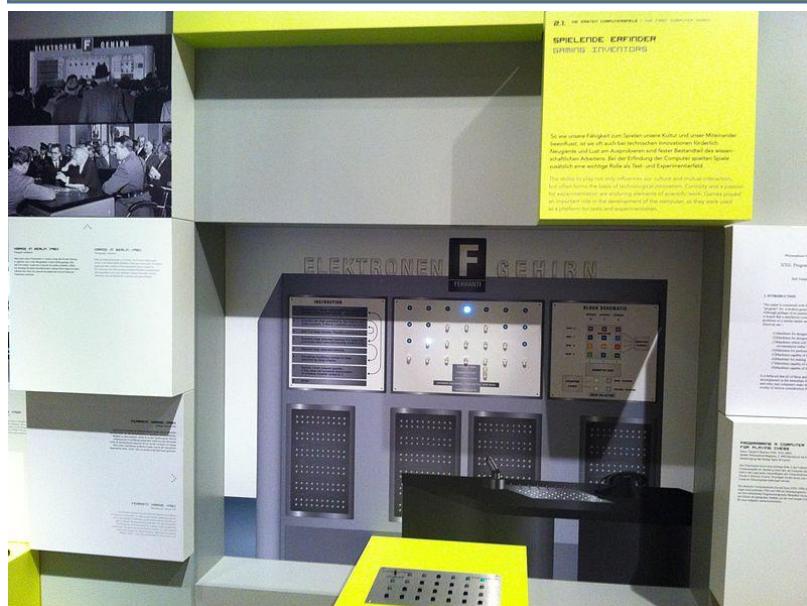
Nimrod played the logic game Nim, showcasing at the Festival of Britain in 1951.



The Festival of Britain was a lavish spectacle, held in May through to September.



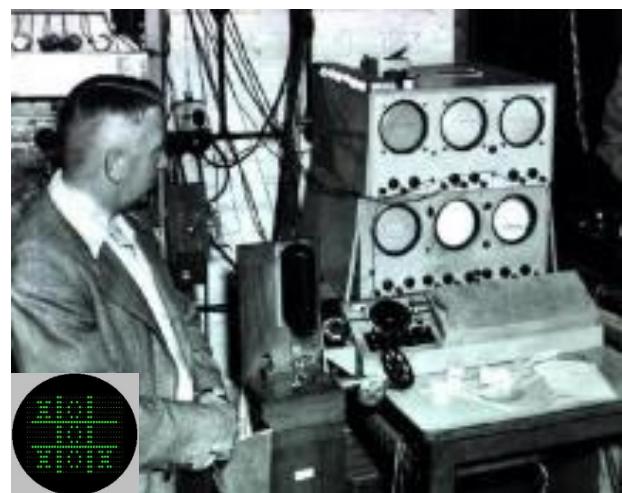
The festival was a wondrous event, showcasing the latest in science.



← Nimrod would continue to be displayed in Berlin in October 1951 and today is at the Computerspiele Museum in Berlin as an exhibit.

Another early front runner, was the noughts and crosses game by Alexander S. Douglas at Cambridge University in the UK in 1952. The game was written for the new EDSAC (Electronic Delay Storage Automated Calculator) computer.

Such game ideas weren't unique either, Christopher Stachey also built a game of Draughts for his computer, the Pilot ACE, showing the game successfully in 1952. Across the pond in the US, IBM employee Arthur Samuel would also be working on a game of Draughts or Checkers, for its IBM 704 computer. This game would continue to evolve as well, with it eventually having the ability for the program to actually learn from past games and improve upon them. This therefore is certainly one of the earliest examples of a self learning computer program.



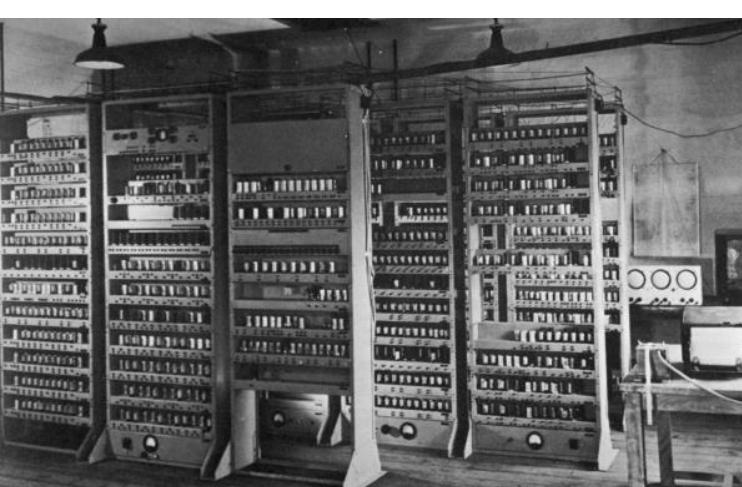
To try the OXO game, then there is a fantastic EDSAC windows emulator available for free here:

<http://goo.gl/64jbVA>

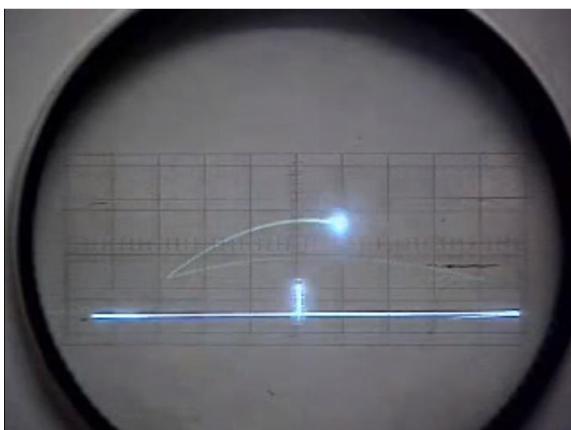


Arthur Samuel's Checkers game would in 1962 play and win against a (self confessed) Checkers master Robert Nealey.

The EDSAC computer, the photo was taken in 1949 shortly after it was built.



Still, up until this point there are some video game historians, who consider that all of these previous games are not to be counted as a video game. Their argument, is for a game to be classed as a video game, then there must be a way of displaying on a screen moving graphics, and it be for the purpose of entertainment. This definition, I personally feel is ludicrous, but if you are to hold true to that definition, then the 18<sup>th</sup> of October 1958 would be the first game to meet that criteria. That game was called Tennis for Two, by American Physicist William Higanbotham, and went on display at the 1958 public exhibition at the Brookhaven National Laboratory (BNL).



William Higanbotham's Tennis for Two, really was a massive leap in the world of video games [[Vid](#)].

The game was built merely as a curiosity, with a game of tennis shown from the side viewpoint, and had two human players bat a ball back and forth. The game has an impressive real physics bounce mechanic, and unlike certain later games based on Tennis or Ping Pong, this game even had a tennis net drawn to be contended with.



In the 1961 Exhibition, the game was labelled as Computer Tennis.

The game's importance was largely unappreciated at the time, with it only showing at a few of the subsequent BNL exhibitions, before being dismantled and forgotten. In fact the only reason the game became well known again, was because William Hignbotham was called as a witness by Nintendo in 1985, when they successfully managed to invalidate Magnavox's video game patent.

In the 1959 BNL exhibition, the game was improved still further, this time the screen would be bigger at 10" by 17". Also extra modes was added such as being able to play on the Moon or Jupiter, along side Earth, with different gravity to contend with on each.

Amazingly the Brookhaven National Institute, in Long Island New York, still offers a recreation of the game that is playable today.

They have even made versions of the original controllers that were used, so players can experience this important game as it was played originally. To know more about this machine, they also have a wonderful online article all about the game and Higinbotham's life. Including all his original designs and schematics for you to enjoy

<https://goo.gl/elV3Lt>. To actually visit the institute itself, details about it can be found on their website (<https://www.bnl.gov>)



William Higinbotham  
(25<sup>th</sup> Oct 1910 –  
10<sup>th</sup> Nov 1994)  
Born in Connecticut in  
the US, he would work  
on the electronic  
components for the  
nuclear bomb during  
the war, before making  
the Tennis for Two  
game.



An emulator of Tennis for Two also has been written for you to try , and can be found here:  
<http://goo.gl/LXXnC6>

We are now entering the 60's, and the US was in frantic overdrive, having suddenly found themselves being behind the Russians technically, when in 1957 Sputnik 1 was launched and overnight America found itself in a space race. This sudden focus on technology, was a massive boon for research into computers. As part of going into space, involved complex mathematics to plot trajectories.

One such initiative that was started by the Eisenhower administration, was ARPA (Advanced Research Project Agency). Whose credo was "forming and executing research and development projects to expand the frontiers of technology".

Such research conducted for ARPA, would be critical to designing the world of modern computing. Such as J.C.R. Licklider of MIT, who would begin convincing the ARPA board of the merits of a Galactic Network, which would allow computers to be able to talk to one another across the globe. Then of course Leonard Kleinrock who would give his theory of packet switching, which would explain how transferring the data would be feasible.



The Russian Sputnik-1 would be the first man made orbiting Satellite that was launched on 4<sup>th</sup> October 1957. It stayed in orbit until 4<sup>th</sup> January 1958. Despite being only 23 inches in diameter and only weighing 184 pounds, it was a defining moment in human technological history. It also led to the space race and the creation of NASA as America attempted to regain technological superiority.

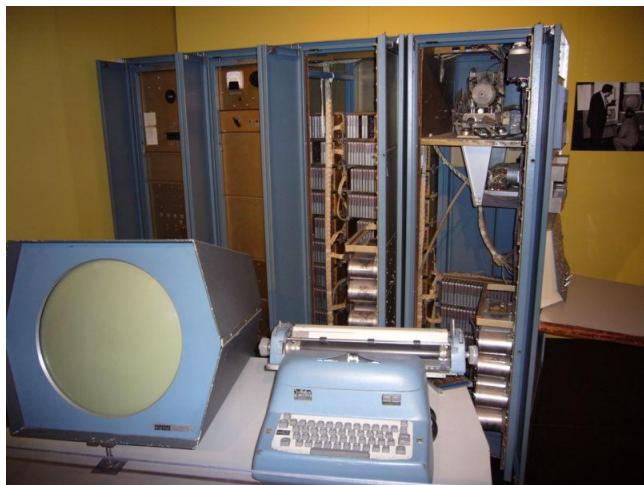


Leonard Kleinrock's theory on Packet switching would make data transfer feasible →

← J.C.R. Licklider's concept of a Galactic Network was the beginning of the internet.



Yes the 60's was a golden age for being a smart nerd, and most of those brightest minds, who was interested in computing, could be found at the MIT (Massachusetts Institute of Technology) University in Cambridge, in the North East of America.



PDP-1 released in 1959



The control panel for the PDP-1

MIT would have the latest in computer systems available at the time for their students as well. Such as the 1959, PDP-1 (Programmed Data Processor) by the DEC (Digital Equipment Corporation) company. This allowed the students attending MIT to be on the bleeding edge of technology, and help design the future of computing. The University had hoped for its students to put such an expensive machine, costing \$120 thousand dollars (\$1 Million in todays money) to worthwhile pursuit. Some of the Students however had other ideas.

One such student was Steve Russell, a smart geek, affectionately nicknamed "The Slug" by his friends.

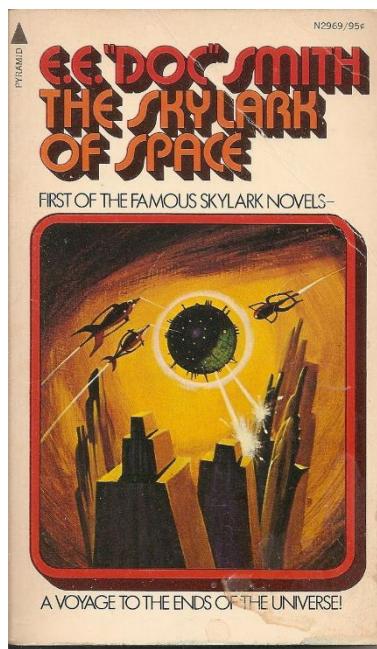
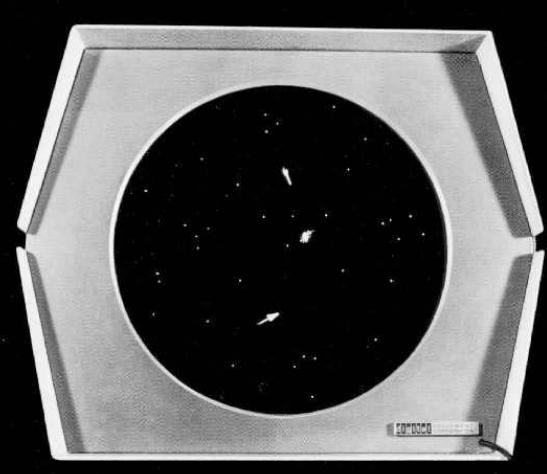
He and a few of his fellow students, Martin Graetz and Wayne Wiitanen, decided to use this expensive machine to write themselves a video game.



Steve Russell created the Spacewar! game.

So in 1962 they first showed fellow students their new game called Spacewar! In the game, you had two human player controlled ships, flying around a central star, and shooting one another. It was technically impressive as well, with simulated inertia physics of both the space ships, and the ever pulling gravity of the central star.

The two ships, dubbed the “Needle” and the “Wedge” were inspired by the Skylark novels by E.E. “Doc” Smith. Stories which had been written way back in 1921, when he was working on his doctorate in food nutrition. The stories were then published in a serialised format for the Amazing Stories magazine during the 30’s, eventually being turned into a book in 1948. In fact, the Skylark stories was the first ever serialised space opera published. The book had recently been reprinted in 1962, and Steve Russell was a real fan of them, and so he used it as an inspiration for his game.



The game Spacewar! had two ships attempting to shoot one another, whilst avoiding the central stars pulling gravity.

You can play an emulated Java version of the game here.

<http://goo.gl/xHgbaH>

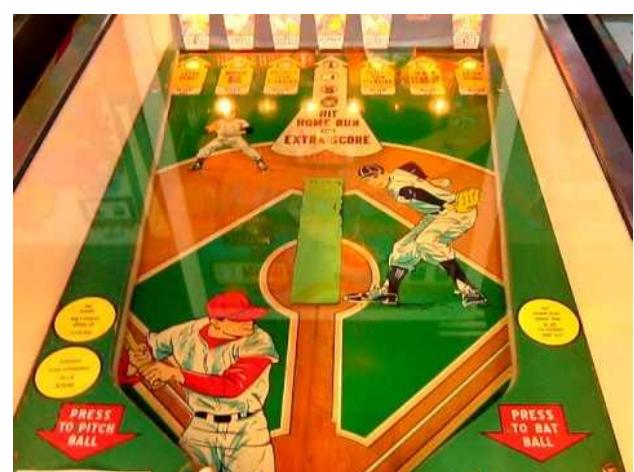
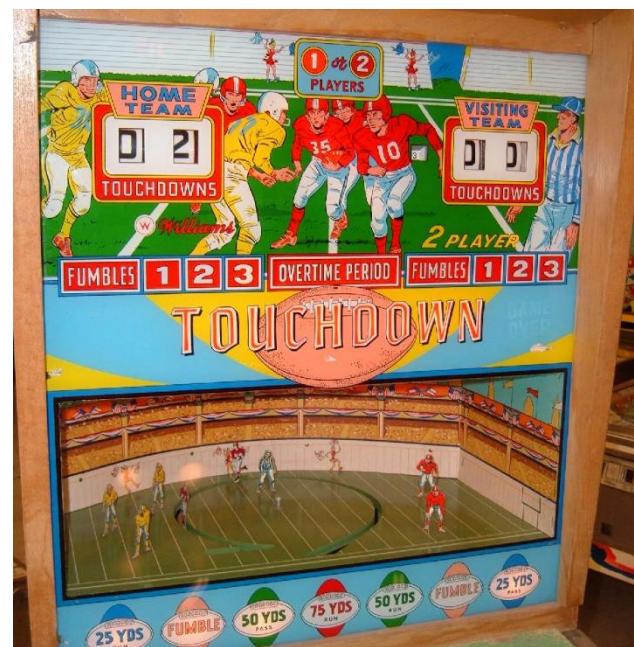
E.E. “Doc” Smith

The Spacewar! ships had been inspired by the E.E. “Doc” Smith Skylark Novels. A mega pack of his books can be found here

<https://goo.gl/6HmI8A>

Spacewar! Would quickly become massively popular around the MIT campus, and fellow University geeks and nerds continued to hack and improve the game. Even building a game controller to make playing the game easier. One student who saw it was Nolan Bushnell (who would later go on to co-found Atari). He was studying at the University of Utah, College of Engineering at the time, and he could see that such video games would be the future.

As a summer job, Nolan had been working at the local arcades, which were currently full of mechanical entertainment devices. He felt a game like Spacewar! would be hugely popular, but knew that with the current prices of computer hardware at that time, it meant such an idea (for now) would be financially unfeasible.



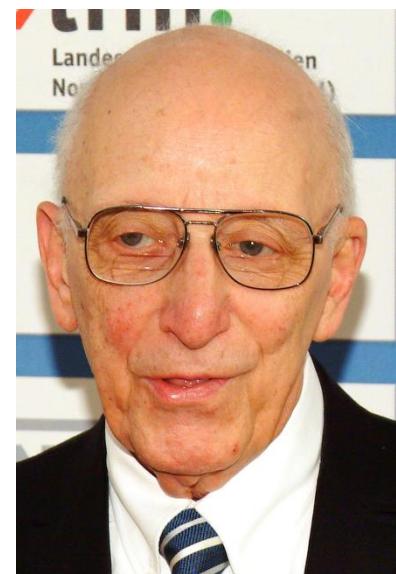
Some classic mechanical arcade games in 1960's including SEGA's Duck Hunt released in 1969.

Once the floodgates had opened to write games, fellow hackers around the globe started to write other games for various mainframe computer systems. By 1969, five hundred programs existed, and a quarter of those were games. Most were text based games but still mightily impressive. Some early favourites would be Baseball, Basketball and American Football text based game simulators.

But whilst students were looking at writing games for hugely expensive Mainframe computers, another person was looking at ways to make the cheap televisions owned by the masses, interactive.

Ralph Henrich Baer was born in Rodelben Germany in 1922. But being Jewish in a Nazi controlled Germany in 1938 was a dangerous place to be. So aged 16 Ralph and family moved to America.

Over in America Ralph helped the war effort by enlisting. He also changed his middle name from the German sounding Henrich to the more western sounding Henry. After the war Ralph, showed himself as a gifted individual, particularly in the field of electronics.



Ralph Baer  
(19<sup>th</sup> Mar 1922 –  
6<sup>th</sup> Dec 2014)

In 1951, for the company the Loral Corporation, Ralph was asked for ideas to make the best television in the world. One of Ralph's concepts even then, was some additional electronics added to the TV that would allow the watcher to interact with the Television, and so play games.

The idea was dropped by his boss, and Ralph put the idea out of his mind, continuing to work there a few more years, before leaving to work for another electronic company called Sanders Associates. By 1966 Ralph was now running a small team of people, and decided to rekindle his 1951 idea of building games to work with any TV set. He nicknamed it the Channel LP or Channel Lets Play.

By 1967, Ralph and his team were far enough along to design a prototype. Called the Brown Box, the prototype was fully playable by 1968, by 1969 they had even filed a patent for playing video games on a TV.

Words cannot express how truly ground breaking this Brown Box games console was. Allowing different cards to be placed in the console and so change the game parameters for what you were playing. Now I want to stress, this wasn't changing the games entirely as later systems, but it would still offer a wide variety of games to enjoy.

By 1969, the team were far enough along to actually begin to demonstrate the system to potential investors. In fact a wonderful video was made by the team, showing casing one of the games, table tennis. This therefore, has to also go down in history as the world's first ever Lets Play video ☺

FIG. I

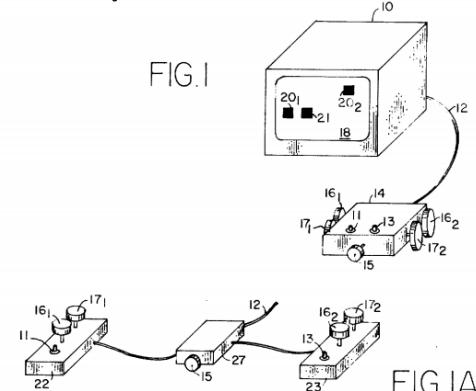


FIG. IA

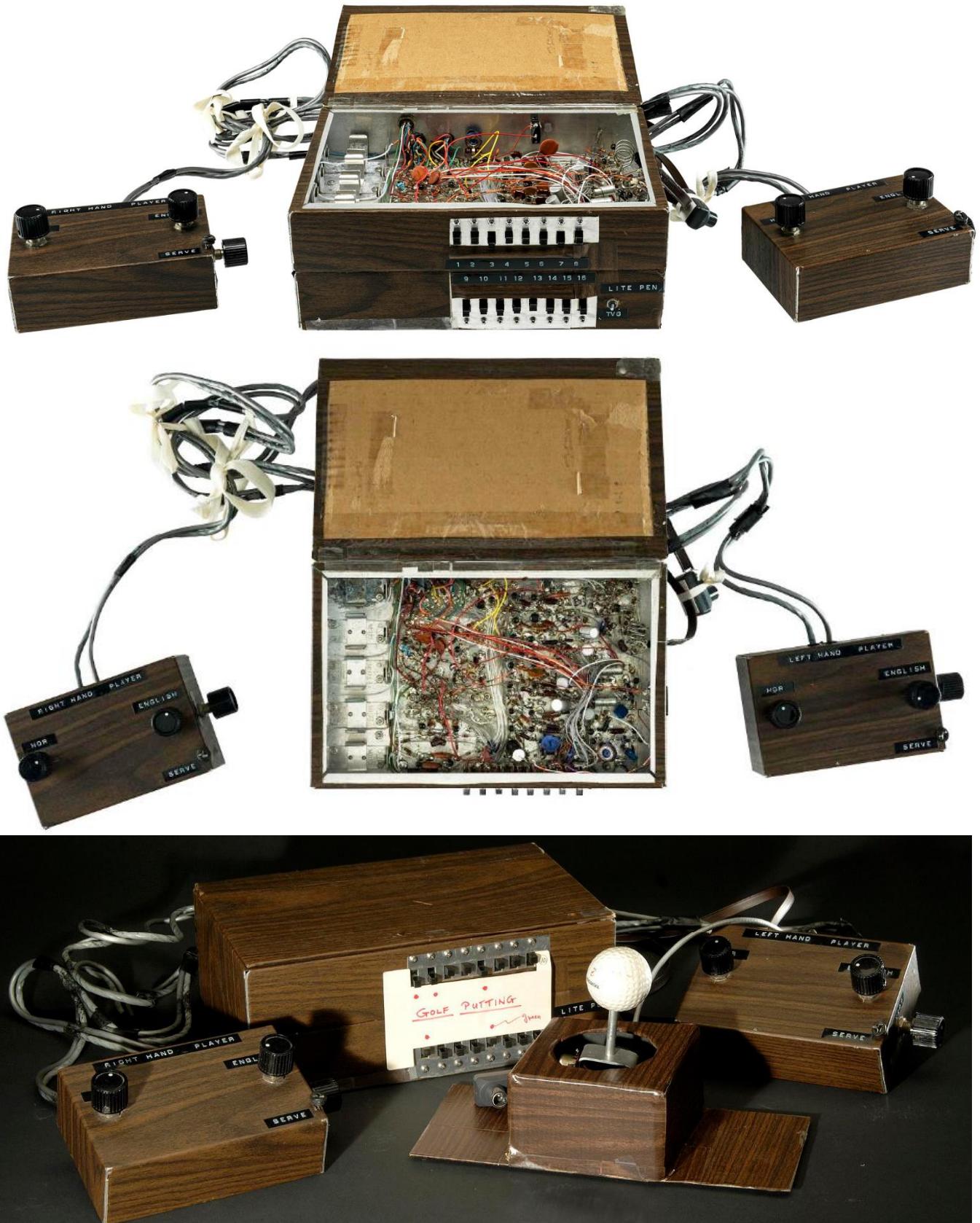
A patent was raised in 21<sup>st</sup> Aug 1969. The full Patent can be viewed here..

<https://goo.gl/1iQwJY>



In 1969 Ralph Baer and Bill Harrison would demonstrate the Brown Box and show the game Table Tennis on the system.

<https://youtu.be/1LsRGUODHIQ>



The Brown Box game console was built by Ralph Baer and his team in 1968. This would eventually become the Magnavox Odyssey console. Pictures are from the National Museum of American History <http://goo.gl/kRV5Qq>



Unlike previous machines, The Brown Box game console was able to play a variety of different games, including Ping Pong, target shooting, golf putting and other sport titles.



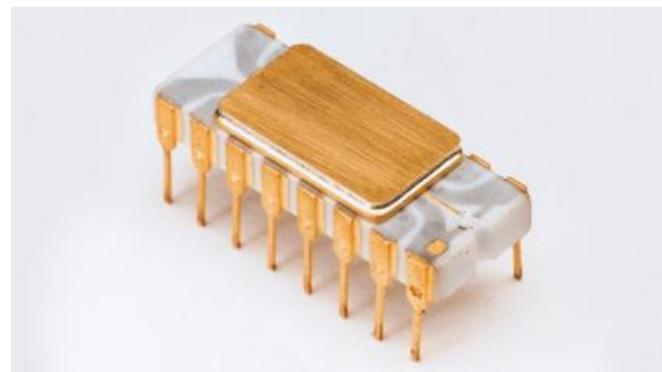
The system even had the worlds first light gun peripheral, allowing the player to actually shoot at the screen with a gun and fire at targets.

So they now had a working console, they just needed to show it to potential buyers. Trying all the TV manufacturers at the time, the team found much interest in the device, but only the executive of RCA, Bill Enders was impressed enough to buy, and when he left RCA, the deal fell through. Thankfully a new deal was picked up by Bill again, in his new role as executive for Magnavox in January 1971. Ralphs Baer's dream to have a games console plugged into TV's across the land was on its way.



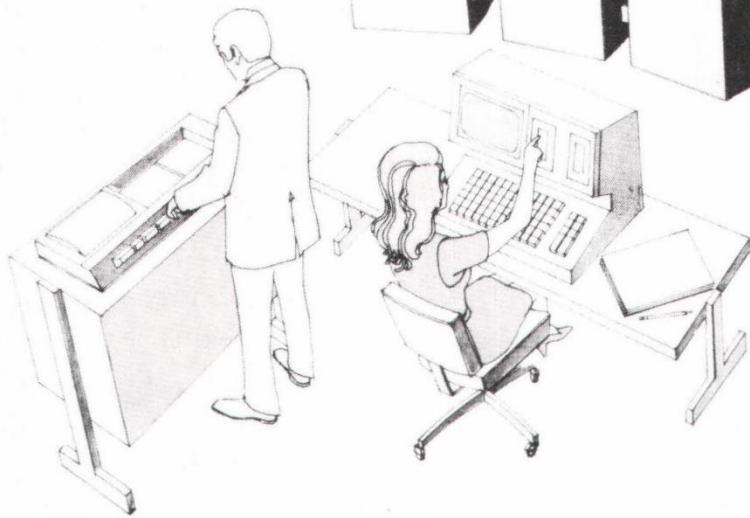
The Brown Box controller had dials to move the dot both horizontally and vertically. It even had a dial to place swerve on the ball.

Meanwhile in 1971 over in Santa Clara California, a new kind of technical revolution was happening. With Intel's 4004 Micro chip, being announced on the 15<sup>th</sup> November, in Electronic Monthly magazine. Suddenly it was possible to do far more complex and smaller chip designs, making the cost and size of personal computers feasible. Many geeks across the globe saw the vast potential and possibility of such integrated circuits and micro chips.



The Intel 4004 chip. The world would never be the same again.

## Announcing a new era of integrated electronics



### A micro-programmable computer on a chip!

Intel introduces an integrated CPU complete with a 4-bit parallel adder, sixteen 4-bit registers, an accumulator and a push-down stack on one chip. It's one of a family of four new ICs which comprise the MCS-4 micro computer system—the first system to bring you the power and flexibility of a dedicated general-purpose computer at low cost as few as two dual in-line packages.

MCS-4 systems provide complete computing and control functions for test systems, data terminals, billing machines, measuring systems, numeric control systems and process control systems.

The heart of any MCS-4 system is a Type 4004 CPU, which includes a powerful set of 45 instructions. Adding one or two Type 4003 ROM modules for program storage and data tables gives you a highly functioning, micro-programmed computer. To this you may add Type 4002 RAMs for read-write memory and Type 4003 registers to expand the output ports.

Using no circuitry other than ICs from this family of four, you can create a system with 4096 8-bit bytes of ROM storage. And the best part is that you can have a rapid turn-around or need only a few systems; Intel's erasable and re-programmable ROM, Type 1701, may be substituted for the Type 4001 mask-programmed ROM.

MCS-4 systems interface easily with switches, keyboards, displays, teletypewriters, printers, readers, A-D converters and other popular peripherals.

The MCS-4 family is available from Intel's Santa Clara headquarters and at our marketing headquarters in Europe and Japan. In the U.S., contact your local Intel representative for technical information and literature. In Europe, contact Intel at Avenue Louise 216, B 1050 Brussels, Belgium. Phone 492003. In Japan, contact Intel Japan, Inc., Parkside Flat Block No. 4-2-2, San'ya, Chiyoda-ku, Tokyo, Japan. Phone 03-403-4747. Intel Corporation now produces micro computers, memory devices and memory systems at 3065 Bowers Avenue, Santa Clara, Calif. 95051. Phone (408) 246-7501.

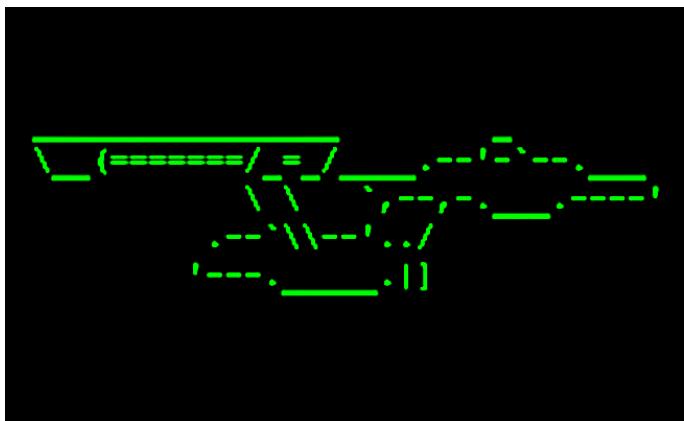
**intel**  
**delivers.**

Intel's 4004 chip was announced to the world in the advert on the 15<sup>th</sup> November 1971 in the Electronic Monthly magazine.

```
quadrant      3/1      condition  GREEN
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . * .   torpedoes    10
* . . . . . . * .   energy     1815
. . . . . . . .   shields    1000
. . -E- . * . . . klingons    17

command: [ ]
```

The Mike Mayfield original was very basic, but has to go down as the first ever video game that was written about a film or TV show.  
(all be it unofficially)



Later versions took the original idea  
and built upon the idea.

Of course at the Universities and research buildings in 1971, computer mainframes was still being put to creating video games. One such game was Star Trek by Mike Mayfield on the SDS Sigma 7 computer. The game, based on the hit sci-fi TV show, had the player control the Starship Enterprise through space and boldly go where no video game had gone before. To be honest it wasn't until 1976, and Bob Leedom's version of the game with Super Star Trek, it really took off. In fact you can try that game today online here...

<http://www.arctuviangambit.com/startrek.html>

A great article by the Register can be read [[Here](#)].

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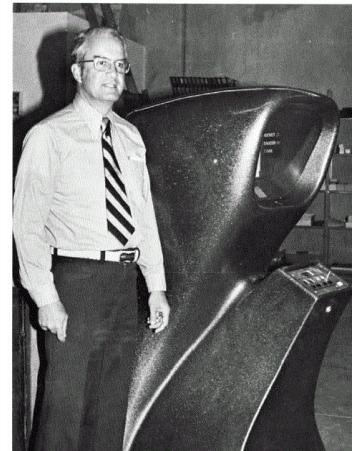
DO YOU WANT A DIFFICULT GAME? (Y OR N)N
STARDATE 3200:
YOUR MISSION: TO DESTROY 10 KLINGONS IN 30 STARDATES. THERE ARE 3 STARBASES.
ENTERPRISE IN QUADRANT - (7 4) SECTOR (7 1)
Command:2
R=REPORT      S=SR SENSOR    L=LR SENSOR
G=GALAXY MAP   P=PHASER      T=TORPEDO
W=WARP ENGINE  **PLEASE USE ONE OF THESE COMMANDS***

Command:G
ENTERPRISE IN QUADRANT - (7 4) SECTOR (7 1)
COMPUTER DISPLAY GALAXY MAP
  1   2   3   4   5   6   7   8
-----
1 |   1   2   3   3   1   3   2   3 | 1
2 |   2   1 401 1   2   2   3   3 | 2
3 |   2   3   1   3   1   2   2   1 | 3
4 |   2   3   1   1   1   3   3 101 | 4
5 |   1   1   12  3   1   2   3   1 | 5
6 |   2   1   3   1   3 11   2   1 | 6
7 |   3   3   2   1   1   3   1   3 | 7
8 | 301  1   111 101  2   3   1   1 | 8
-----
  1   2   3   4   5   6   7   8
Command:

```

Meanwhile Nutting Associate's was formed in 1965, when the founder Bill Nutting decided to start working on a new kind of arcade machine.

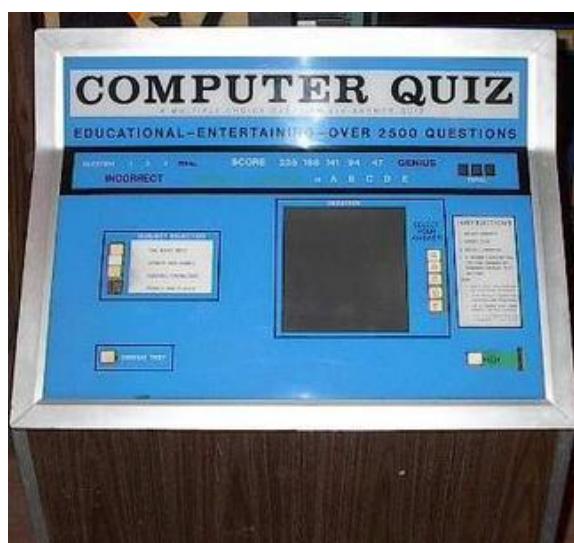
Their first games were Computer Quiz, released in 1968 and a read your horoscope machine called the Astro Computer. They had some moderate success, but Bill Nutting was keen to find new electrical engineers to make computer based arcade games. In August of 1971 Nutting hired Nolan Bushnell to work on an arcade game. Nolan's idea was to take the SpaceWar! game that Steve Russell had written and place it in an arcade cabinet. So working with Ted Dabney, the duo, under their new company name Syzygy Engineering, would have a working game ready for November that year.



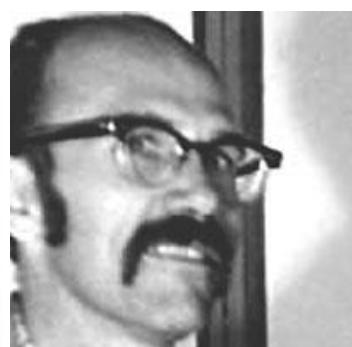
Bill Nutting



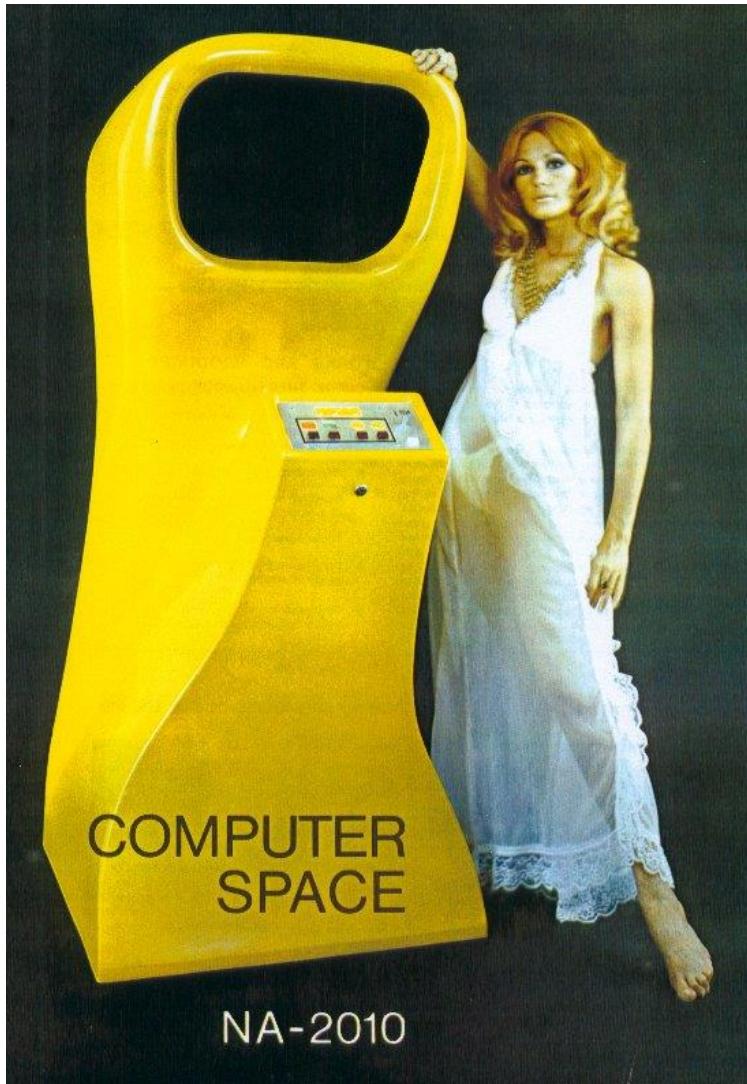
Nolan Bushnell



Nutting Associates would use computers to do novelty arcade quiz and horoscopes machines.



Ted Dabney



A cool promotional flyer, showed off the sexy arcade game.



In Computer Space it had you target computer controlled flying saucers.

The game was called Computer Space and was inspired by the game SpaceWar! This time though you had to shoot computer controlled flying saucers. The game looked stunning, and all of Nolan and Ted's mates loved the game. But when Nutting Associates released the game to local pubs, the response was completely different.

You see for engineers and geeks the game was great. But to your average person in a pub holding a beer. The game was simply too complex and tough to hold their attention.

The game would eventually sell 1,000 cabinets, a far cry from the run away success they all had hoped for. Still the arcade cabinet did appear in the 1973 Sci-fi classic film, Soylent Green and made reasonable sales, for the time, so it's hardly a flop.

Still Nolan was convinced the concept of a computer video arcade game was sound. It was just that they needed a more accessible game for people to play.



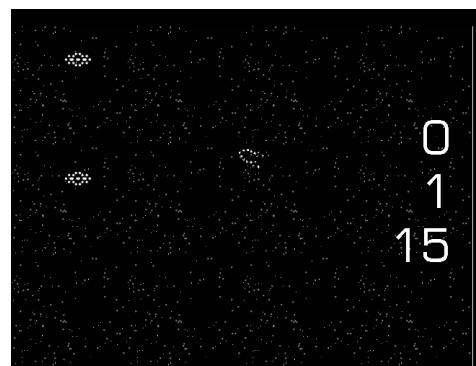
A wonderful video of the game in action can be seen on the Down the Rabbit Hole You Tube channel... <https://youtu.be/UisiNdridgo>.

Also the game has been re-created and can be downloaded here..

<http://goo.gl/XRzqnv>



The overly complex controls (for the time), was a large part of the games failure





Of course Nolan wasn't the only person to have the idea to clone SpaceWar! as an arcade game. In September only a month after Computer Space, another game was shown as a prototype. Called Galaxy Game, it was created by Bill Hicks and Hugh Tuck and shown in Stanford University.

This game, unlike Computer Space was pretty much a straight clone of SpaceWar! Running on the expensive PDP-11 computer. But with a single prototype costing \$22 thousand and only 10 cents for a game or 25 cents for three, the idea simply didn't make financial sense and so only two prototypes were built.

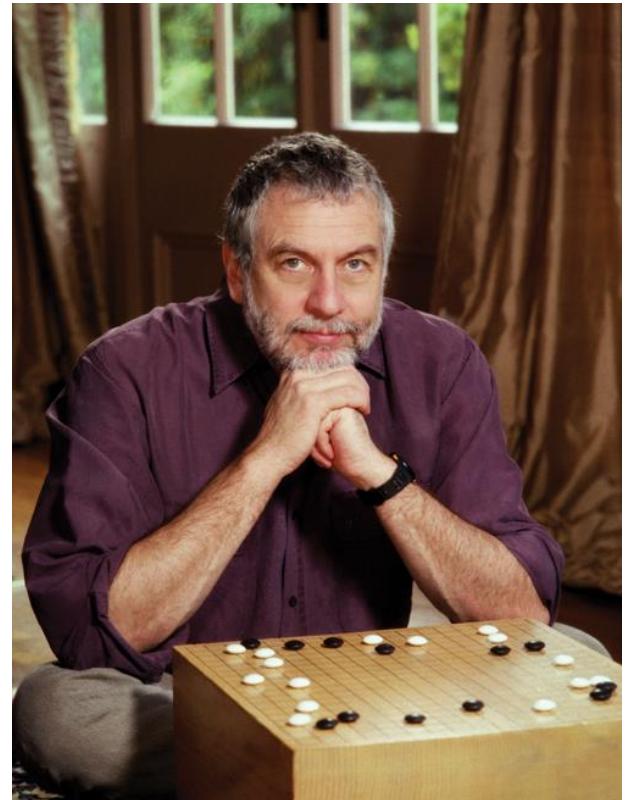
The game is available in  
the MAME emulator.



Galaxy Game was shown as a prototype in Stanford University also in 1971.

But back to Nutting Associates. Despite the disappointing sales of Computer Space, they were still keen to build a more accessible sequel. Nolan Bushnell however now wanted a stake in the company, if he was to make the next game.

It was a deal that Bill Nutting was not willing to make. So Nolan Bushnell and Ted Dabney left Nutting Associates to found a new enterprise. But what to call this new company? Well at the time Nolan was a big fan of the strategy board game Go. As part of the game, there is a polite warning a player says when you are about to defeat your opponent (kind of like saying check in Chess). In Go that word was Atari, and Nolan thought that was a marvellous name for a company and was exactly what he wanted to say, warning the world he was about to win.



Nolan Bushnell poses for the Camera, in front of the Go board that helped inspire Atari's name.

Atari, is a polite warning to beginner players of Go, that they are about to lose.

Now all Atari needed, was a new game to actually sell. Nolan Bushnell was looking for something that was easy to play and extremely fun, for your typical person down the pub.

On the 24<sup>th</sup> May 1972 the answer came to him, when he attended a closed doors, profit caravan exhibit, of the soon to be released Magnavox Odyssey which Ralph Baer's wooden box had now been named.

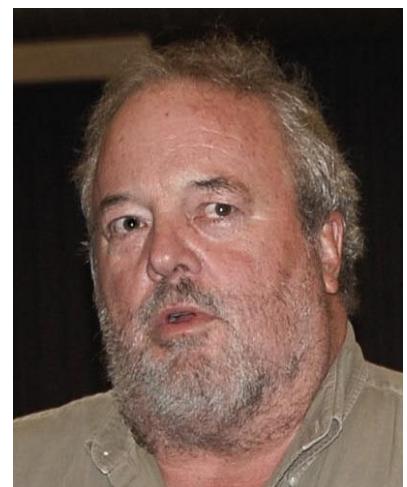
One game Nolan saw on display, was the Table Tennis game and he knew it was exactly the game he was looking for. So going back to Atari he hired Al Alcorn for \$1,000 a year and tasked him to create a video game which had two paddles and a ball. On joining the company, Al had been told by Nolan that they had a deal with General Electric to make a game.

Date	Name	Guests	Address	65266
5/24	La Simpkin GUS Simpkin	11		
5/24	Bob Burke			
5/24	Neil Blomk			
5/24	Nolan Bushnell			
5/24	S. Wozniak	Laportte's		
5/24	R. Meltz	Crowell's		

The guest list of the May 1972 Magnavox Odyssey closed door exhibit, clearly shows Nolan Bushnell's signature, confirming he attended.

They hadn't of course, but it was enough for Al Alcorn to join Atari. Alcorn had been told of the game Nolan Bushnell had seen at the exhibition, and as an initial test they would copy the general idea of the game.

Alcorn who had never even seen Ralph Baer's game himself would build it from scratch. In his version, Alcorn used the TTL (Transistor-transistor Logic) circuits, which by 1971 had finally become affordable. This meant that the Atari game would be digital based, as opposed to Ralph's analogue solution, and able to have sounds and display more complex things, such as score.



Al Alcorn



Al Alcorn had the general premise of the game written now, but felt the game was too dull. So he added eight different angles the ball would ricochet, depending where on the bat it hit. He also added a score display, so you could see who was winning. Now the game was really coming together and was becoming a lot of fun. Only three months in development and Nolan asked him to add sounds to the game as well. Nolan felt producing sounds of the ball hitting the bat, and having the boo's and cheers of the watching crowd would be really cool.

Al Alcorn had no idea how to do such sounds, they were also already at the limits of the assigned budget and size for the device, so it wasn't as if Al Alcorn could simply stick in some additional circuits. Besides he had no idea how even to produce it?

Rummaging around within the existing circuitry, he discovered that by playing around with the synch-generator he could produce the rudimentary sounds that Nolan wanted. The game was complete now they just needed a name.

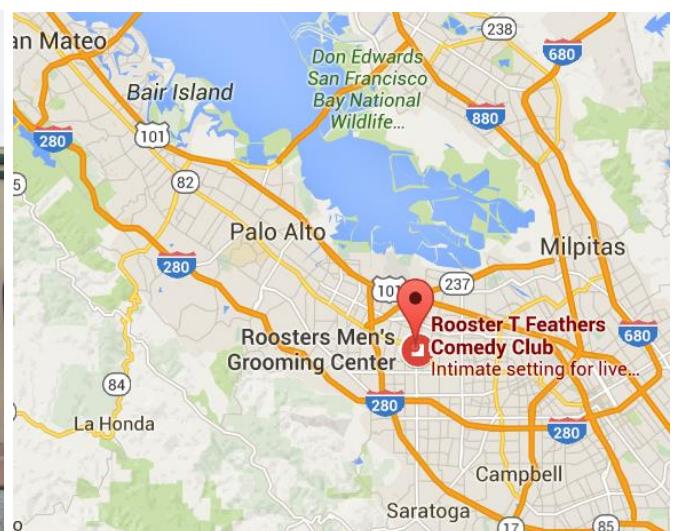
They decided to call the game Pong, this was simply because they wanted a catchy short name, and of course a slang term for Table Tennis was Ping Pong, so it all fitted. Next they needed the game to be contained in a sturdy box, to handle the heavy handed public.



The First ever Pong machine that Al Alcorn worked on for Atari.

Al Alcorn went out to a local Walgreens shop and bought a bog standard Hitachi black and white TV set, and placed the game in a simple cabinet casing. It may have been a bit do it yourself, with the coin box nothing more than a plastic milk carton, with the top sawn off. But it was a fully working game, and a darn fine one as well.

They loved the game, but now though was the moment of truth, to see how the public fared with the game. They decided to install the game in a local bar called the Andy Capp Tavern. It was a place the team liked and went to regularly, and so they knew the owner and trusted him. Also the bar had some pinball machines and a Computer Space machine already, so it felt a good place to trial it. The team decided to stay there for a while and have a few beers and see how it got on.



Andy Capp's Tavern is now a Rooster T. Feathers comedy club. Its address is  
157 W El Camino Real, Sunnyvale, CA 94087, USA

Nolan Bushnell remembers,

*“You put it in place and stand back and watch people play it.”  
What we saw was encouraging, but not extraordinary. “We watched for a couple of hours, drank a couple of beers, then went home.”*

So hopeful, but still no signs that the game would fair any better than any other computer game, the team went back to work. Their first sign that they might have a hit on their hands, was when only days later, the owner of Andy Capp's, Bill Gattis, called them to say that the machine wasn't working anymore. Al Alcorn went there to see what had happened, and found the problem. The issue was that the coin holder was over filling with coins and couldn't take any more.

It was the kind of issue they wanted to see, as it meant that the game was proving hugely popular. They decided to fix the issue, by replacing the milk carton coin holder with a bigger coin catcher, a bread pan.

During this time however Nolan was over in Chicago. You see the original plan for Atari was not to manufacture games, but rather design them and sell them to other companies to manufacture. Nolan had done such a deal with Bally Midway, the only trouble was, the contract was for a computer arcade racing game, and instead they had written Pong. Nolan Bushnell armed with a more portable Pong machine did his best at the meeting, but ultimately with them designing a totally different game to what Bally Midway wanted, the deal fell through.

So down hearted, Nolan went back to the Atari offices to tell the team the deal had fallen through. But when he heard the story about the overfilling coin holder, he began to see the failed meeting was more of a blessing, and perhaps Atari should go into manufacturing their games as well?

Al Alcorn remembers how the conversation about Atari's direction went about...

*"I vividly remember a meeting at Andy Capp's when Nolan had returned from Chicago,"* Al Alcorn says. *"He told me what had gone on there, and I told him about what Bill Gattis had said. He said we wanted to get into manufacturing, and Ted said, 'Nah,' and I said, 'Nah, I don't want to be a manufacturer.' It was two against one. And Nolan won. Next thing you know, we're a manufacturer."*

So with their new direction of making the arcade cabinets themselves, the team used a lot of credit and good will with suppliers, and built the first run of Pong machines.

They delivered the twelve new cabinets, in the same style as the prototype and placed it in twelve other pubs around California, using a battered pick up truck to deliver them.



The later Pong cabinets were done in a striking yellow design.

← From left to right, Ted Dabney, Nolan Bushnell, Fred Marencheck and Allan Alcorn.

Despite a few hic-ups such as the pickup truck breaking down, and poor Ted Dabney being left stranded in the middle of nowhere for hours, the game was continuing to be a huge hit. Bill from the Andy Capp's Tavern was starting to report how people were queueing up before his place had even opened at 10am, simply to play the game.



The best way to play the game Pong today is the Plug it in and Play TV games paddle. But the cheapest legal option is the Atari Anthology for PS2, Xbox and PC. There is a DICE emulator but I still find it a bit buggy.

<http://goo.gl/BljZuZ>



The team began to ramp up manufacturing the machine, and then when they landed an order for 300 machines, they decided to move offices to an old roller skating rink in November 1972.

The team was making huge profits and by early 1973 had already made and sold 8 thousand machines. Now to put that in perspective, that was three times the sales of a typical pinball table of the time.

3-73  
THE NEWEST 2 PLAYER  
VIDEO SKILL GAME

# PONG

from ATARI CORPORATION  
SYZYGY ENGINEERED

The Team That Pioneered Video Technology

## FEATURES

- STRIKING Attract Mode
- Ball Serves Automatically
- Realistic Sounds of Ball Bouncing, Striking Paddle
- Simple to Operate Controls
- ALL SOLID STATE TV and Components for Long, Rugged Life
- ONE YEAR COMPUTER WARRANTY
- Proven HIGH PROFITS in Location After Location
- Low Key Cabinet, Suitable for Sophisticated Locations
- 25¢ per play

THIS GAME IS AVAILABLE FROM YOUR LOCAL DISTRIBUTOR

Manufactured by  
ATARI, INC.  
2962 SCOTT BLVD.  
SANTA CLARA, CA.  
95050

Maximum Dimensions:  
WIDTH -26"  
HEIGHT -50"  
DEPTH -24"  
SHIPPING WEIGHT:  
150 Lb.



To handle such massive growth they literally looked to anyone who wanted a job, regardless of who they were or their background to help make the cabinets.

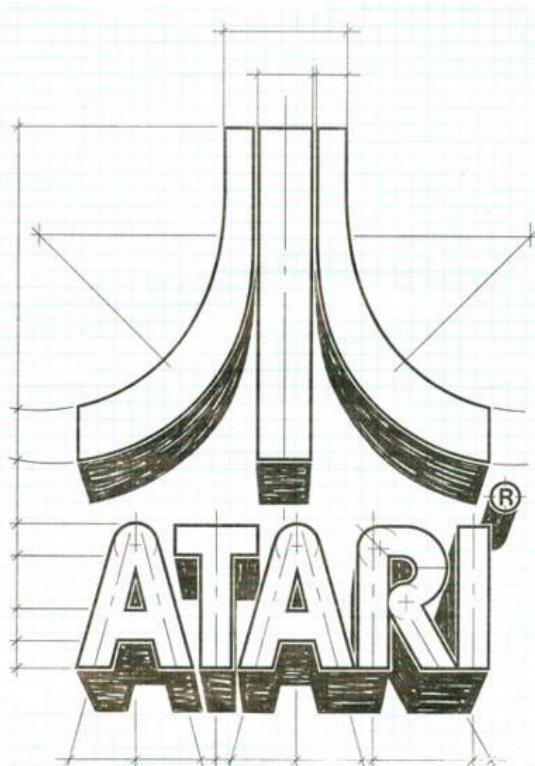
This was important to Nolan Bushnell, to try and give people a chance to work, and help people, help themselves. It certainly made Atari a unique place to work, with you able to smell the pot from over a block away.

But back to 1972, and Atari would hire a graphic designer to design the art work for any future machines they would work on.

George Opperman was a talented individual and was a large factor to Atari's unique graphic style. One of his first tasks was to design the company a new logo. His design would take the idea of the two bats and net of Pong, but stretched into a stylised A for Atari. The logo has gone on to be one of the most recognised logo's of all time. Sadly Opperman passed away in 1985.



George Opperman



Original sketch of the Atari Logo

But of course Atari weren't the only company attempting to sell video games in the arcades. Bootlegs and modifications of Atari's classic games were rampant, and a real concern to Atari at the time.



### Star Trek by For-Play (1972)

Very little is known about this game, apart from an arcade flyer and some possible graphics from the game. It looked to be a computer space clone with slightly redrawn graphics to look like the TV show. It certainly wasn't officially licenced.



### Paddle Derby (1972)

Nutting Associates would release their own cocktail style Pong clone.



### Computer Space Ball (1972)

Nutting Associates would release their own Pong clone as well.

Within months of Pong gaining popularity, clones were cropping up in 1972. By 1973 the number of clones of Pong games was out of control. For a small start up such as Atari, that had gone from a \$500 investment to millions overnight, to go up against seasoned professional companies was a real concern.

Also in September 1972, Ralph Baer and Magnavox would finally release The Brown Box as a consumer product. Called the Magnavox Odyssey, and selling for a whopping \$99 dollars (about £395 in todays money), although it would only cost \$50 if the buyer bought it with a Magnavox television.

It wasn't cheap, but then things that break new frontiers seldom are. Still by September 1973 it is estimated only about 70,000 Odysseys had been sold. Certainly not the run away success the company had hoped for. Blame has been laid on the high price, and also that the Magnavox sales people, would imply that you needed a Magnavox TV, to try and sell more televisions.



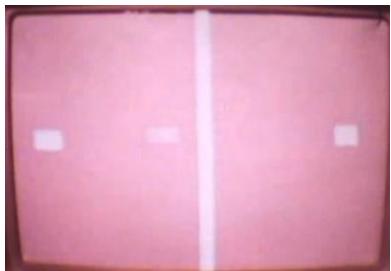
To bypass the simple graphics, the Magnavox Odyssey would come with screen overlays and items to play the game with.



The Magnavox Odyssey ran off of 6 Size C batteries but later you could buy an AC adaptor for the device.

Still the console would include twelve games on six game cards, giving the owner a wide range of genres to enjoy out of the box. The overlays also came in two different sizes, for 18" and 25" television sets.

## The 12 Games that came bundled with the console.



### On Game card 1 - Table Tennis

This had no overlay, and like Pong had the player batting the ball back and forth between two bats.

### On Game card 2 – Skiing

The player must direct the light through the course. The times and penalties must be recorded by the players.

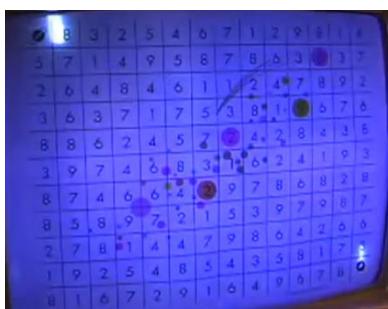
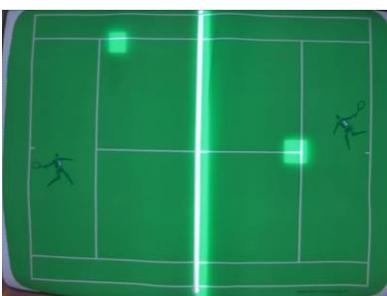


### On Game card 2 – Simon Says

The player calls a body part based on a card and the players must direct the light as quickly as possible to that body part.

### On Game card 3 - Tennis

The same as Table Tennis really, but with an overlay depicting a tennis court. This was the game most people bought the system for.

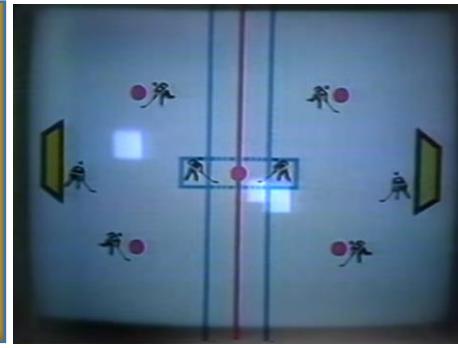


### On Game card 3 - Analogic

Move the spaceships by adding up the players square and another number. Make your way to the inner planets.

### **On Game card 3 - Hockey**

Basically tennis, but you are only able to count a score if the ball goes in the net.

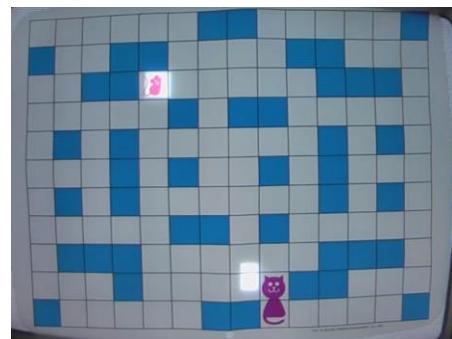


### **On Game card 3 & 4 - Football**

A really complex game, involving a board, dice rolls and a pack of playing cards to do all the moves. Card 3 handles the kick off, passing and punting part. Card 4 handled the running.

### **On Game card 4 - Cat & Mouse**

One player plays the mouse and the other the cat. The purpose of the game is for the mouse to start on the drawn mouse square and move to the bottom right square (the hole). The players are only supposed to keep on the white squares, with the shaded squares supposed to depict furniture.

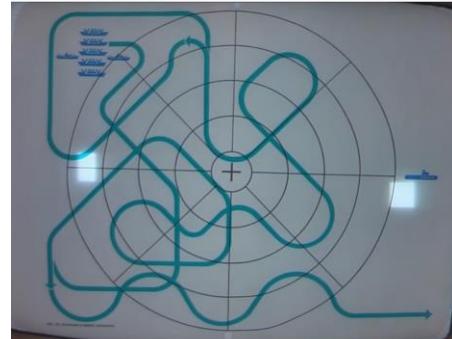


### **On Game card 4 - Haunted House**

One player is the detective, the other plays the ghost. The detective must collect clue cards whilst avoiding the ghost player.

### **On Game card 5 - Submarine**

One player is the submarine who must follow the squiggly line whilst the other dot fires torpedoes at the submarine.





### On Game card 6 - Roulette

Place out the roulette board and play roulette. The ball is simulated by a dot and the player rolling the ball must close their eyes and randomly move the ball around the screen.

### On Game card 6 - States

One player calls out a US State. Say Texas and the other player has to point to the correct state.



Place English or swerve on the ball.

## THE MAGNAVOX ODYSSEY CONTROLLER EXPLAINED



Reset when the ball went out of play.



Move dot vertically

Move dot horizontally.

Magnavox did a great advert for the device that can bee seen here...

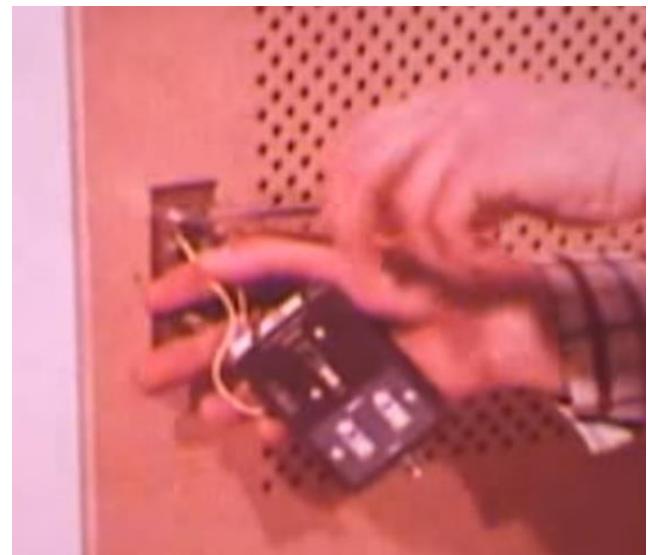
[https://youtu.be/H2EIsnr\\_cv4](https://youtu.be/H2EIsnr_cv4)

They also did a promotional video for Magnavox sales people, that can be watched here... <https://youtu.be/jLGBtkKPj2U>

The truth of why the console didn't sell very well, in my opinion at least, was because the games simply weren't that good.

Outside of the Tennis and Table Tennis games, the rest really could have just as easily be played as a board game. Or simply with a big piece of paper and some torches. Even Ralph Baer said himself, that all people bought the Magnavox Odyssey for, was to be able to play something like Pong at home.

The fact was, that the Magnavox Odyssey was simply too limited technically. There is only so much you can do, with up to three silent dots on a screen. The game designers did about as much as you could with such technology, but mostly it was to use real world board game items.



The special TV connector rather than the aerial used metal forks that had to be screwed into place. This not only was as dangerous as hell in my opinion, but also is a nightmare for collectors when the connector breaks.

All that kind of defeated the Magnavox Odysseys whole point. Don't get me wrong, it is a definite and important pioneer, but based on technology not quite up to the job of achieving the fun and lasting video games that came later. Without any rules or constraints placed on where the players can move, and no digital scoring or sound effects, it leaves the player with a rather empty gaming experience.

Still 16 more games across 6 more game cards was written for the console, including a really cool light gun rifle to aim at targets. As it is such an important machine, lets discuss all of those games now...

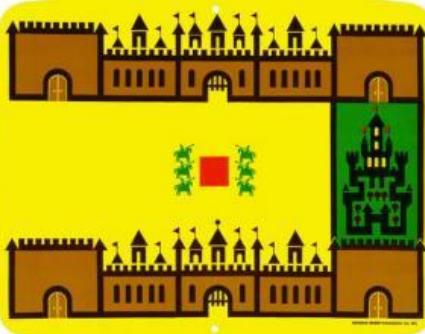
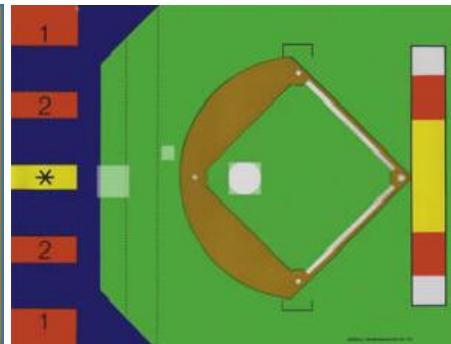


### On Game card 2 - Fun Zoo

Same as Simon Says game, but now a new deck of cards to calls out animals as opposed to body parts.

### On Game card 3 - Baseball

A complex game, involving dice rolls and cards to do all the moves and simulate a game of baseball.



### On Game card 4, 5, 6 - Invasion

A complex strategy game where you moved around the board to fight territories like Risk and then fought using movements on the on screen overlay of the castle and cards.

### On Game card 7 - Volleyball

Bounce the ball between the players, the ball must go over the net for the point to count. This game was included with the European console. US could buy it also.



### **On Game card 5 - Wipeout**

A lot like the skiing game, negotiate the track on the screen, whilst the board game (the bottom picture) would keep track of the laps and times of each round. The game came included with the European console. US gamers could buy the game separately.

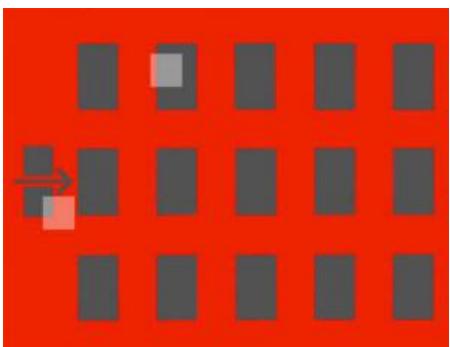
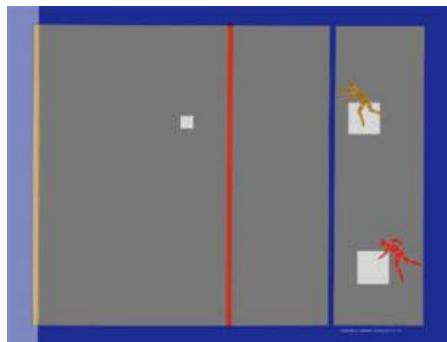


### **On Game card 8 - Soccer**

Players bounce the ball between the players but they must only count the point if the ball goes in the goal. A Europe only release and it came with the console there.

### **On Game card 8 - Handball**

Both players bounce the ball off the wall and attempt to keep it in play. The game was included as part of the European console released. In the US they could buy the game separately.

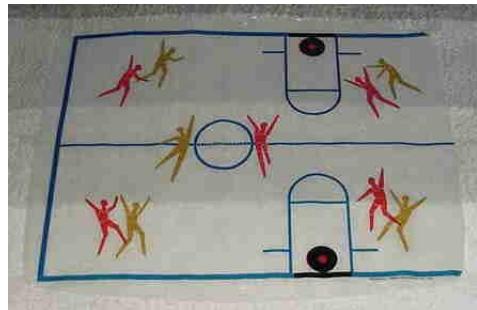


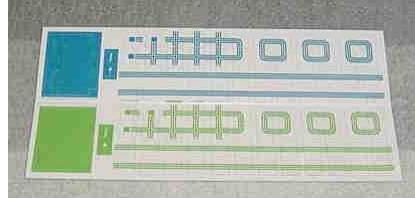
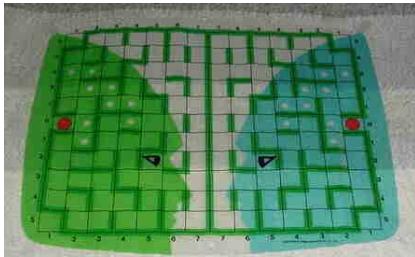
### **On Game card 2 - Percepts**

Given free for those in the US who filled out a survey. Players would have to rush to the corresponding symbol that would be shown on a card drawn on a deck.

### **On Game card 8 - Basketball**

Another game released in 1973, where players bat a ball back and forth. This time the players would only count a point if the ball went into the basket on the overlay screen.



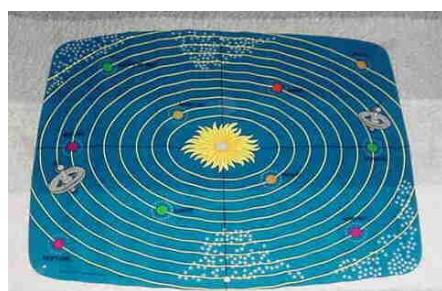


### On Game card 3 - Brainwave

Released in 1973 (the last year games for the Odyssey 1 was released) This is a really complex strategy board game that had the player move around the board rolling dice and cards. I will be honest, I have been unable to make head nor tail of this game. Complex with a capital C ☺.

### On Game card 4 - W.I.N.

Also released in 1973. W.I.N. stands for Word Image Number and is 2 to 4 player board game where the players must fill out their Win cards by reaching the corresponding symbols and letters.



### On Game card 12 -

### Interplanetary Voyage

The last game Magnavox released in 1973. The game had you move your dot that continually simulated momentum whilst trying to reach the corresponding mission card objectives.



One cool element of the Odyssey was the Shooting Gallery light gun rifle, released in 1972 for \$24.95. The pack came with 4 games and the light gun, that would register any light source. This meant it would read the dot of light on the screen, but would also register targeting any nearby lamps for any would be cheats among you.

# SHOOTING GALLERY



... offers you an exciting new dimension in the enjoyment of your **ODYSSEY**. The SHOOTING GALLERY, model 1TL950, includes an ELECTRONIC RIFLE, two Printed Circuit Game Cards and 4 different Targe\* Overlays in two sizes. The total unit offers 6 variations for creating your own home shooting gallery. **\$24.95**



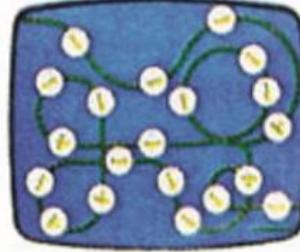
SHOOTOUT



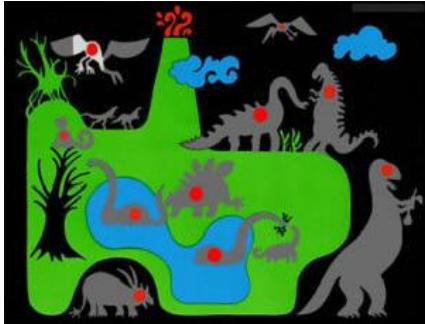
SHOOTING GALLERY



PREHISTORIC SAFARI



DOGFIGHT



### On Game card 9 - Prehistoric Safari

One player places the dot on one of the dinosaurs as the other player takes aim and shoot it.

### On Game card 9 - Dog Fight!

One player places the dot along each target. The other play has one shot at each target. Miss and the player moves to the next dot. How far can the enemy plane survive?

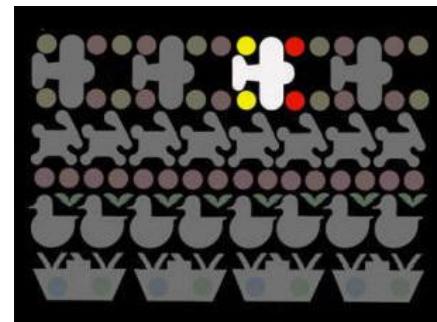


### On Game card 9 - Shootout!

One player plays the bandit it the old wild west who must walk his way to each window. The other player must attempt to shoot him. Miss and the bandit will reach the next window.

### On Game card 10 - Shooting Gallery

This is the best game on the pack. The dot is computer controlled and will light up the targets. The player then must shoot the target before it disappears.



An example of an odyssey game box, which would include the two overlay screen sizes and any cards or accessories. The game cards were of course in most cases already given with the console, so wouldn't be needed in the game box itself.

Sadly there is only one Magnavox Odyssey emulator out there. Called Odyemu it is an unfinished DOS emulator. This means you must download the file here

<http://www.pong-story.com/odyemu.htm>

and then run it through a DOS emulator such as Dos Box which can be found here.

<https://www.dosbox.com/download.php?main=1>

While I commend the efforts of the emulator, sadly without all the accessories such as the board games, cards and dice, the emulator becomes pretty irrelevant. Hopefully one day, some kind soul will work on an emulator that emulates everything and not just the onscreen action. Until then, the best way to emulate the Magnavox Odyssey quite frankly is print out the overlays and shine some torches at it ☺

Magnavox would be sold to Philips in 1974 and a number of simple variants and Pong clones would be released throughout the 70's.



# special

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## 6 optional ODYSSEY games

with the purchase of Odyssey



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HANDBALL



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\*Manufacturer's suggested retail price. Optional with dealers.



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the 12



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SKI



CAT AND MOUSE

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**Now Only \$549<sup>95</sup>**



Model 4722—smart Campaign styling, with grained Pecan finish on vinyl over hardboard, is enhanced by finely detailed moulded blocks of non-wood material. Compact in size, this beautiful Magnavox measures a space-saving 32 $\frac{1}{4}$ " L, 18 $\frac{3}{4}$ " D\*, 28 $\frac{1}{2}$ " H.

\* Add 4" to depth for tube cap.

During all of this progress in gaming, in 1972 university geeks would continue to come up with great game ideas. One such person was Gregory Yob, who attended Dartmouth University in Massachusetts.

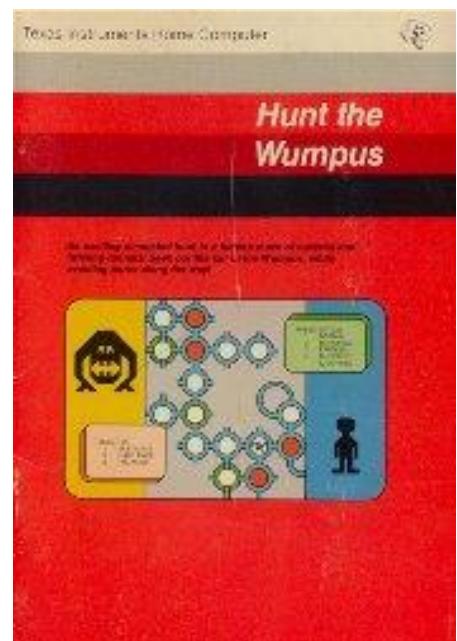
Called Hunt the Wumpus, he took existing logic games he had seen on some of the servers, with enticing names such as Hurkle, Snark and Mugwumps, and created his own variant, upping the complexity and adding text descriptions to what was happening. This therefore made this one of the earliest adventure games ever released. The game was simple really, being text base and starting you in a random room, where you must move around the labyrinth listening to clues in the descriptions to hunt and kill the Wumpus monster. You do this by firing your arrow before entering the square with him in. Choose the wrong square and you might startle the Wumpus and send him into another adjacent square (including the one you are in). The game is quite engaging really and does deserve some credence as one of the first ever text adventure games. The game would finally see a commercial release in 1980 on the TI-99 computer. A good online update of the game can be found here, to give you a good sense of what the game was like : <http://goo.gl/5lFKFH>

```
Enter a command: move 8
You are in room 8
Tunnels lead to: 4 3 16
```

I smell a Wumpus.

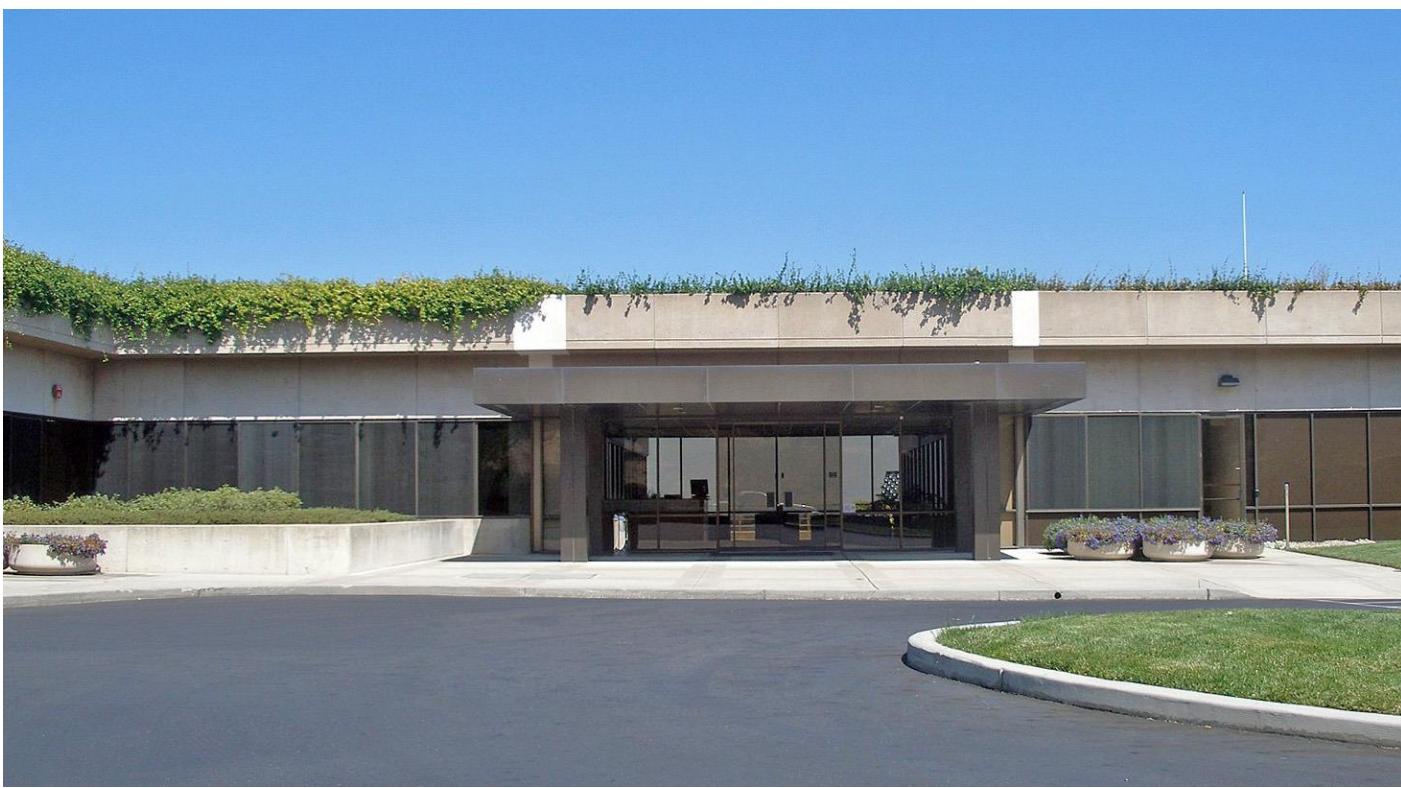
Enter a command:

```
move 16
```



It wasn't just video games that were making progress however, but ideas for the personal desktop PC, that we all take for granted today.

Xerox had made its fortune on producing photocopiers, and was worried what the future office may look like. They could see with computers, that one day paper in the office may become less relevant. So in 1970 they funded a new department to design the future office, to know what they were up against and possibly lead the wave of the new technology. Setting up 3 thousand miles away in Palo Alto, a new research lab was founded, called Xerox Parc, the brightest minds were encouraged to work there and show without financial and commercial constraints, what the future office would be.

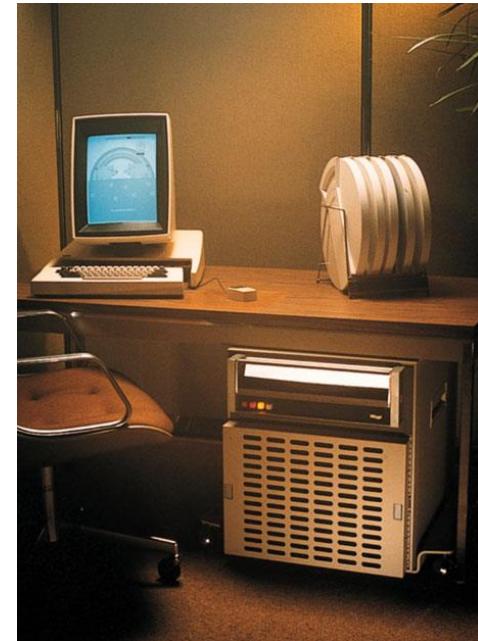


The deserted Xerox Parc building today. This is such an important building in the history of computing.

By the 1<sup>st</sup> March 1973 those efforts had all culminated together with the Xerox Alto personal computer. Now many cite this as the first personal computer and in many ways they are right. But with parts costing several hundred thousand dollars, it simply was not a viable commercial machine. Still the Xerox Parc's work was extraordinary, with them showing a graphical operating system and inventing Ethernet as a way for PC's to communicate with one another.

They created object orientated code, that allowed code to be re-used in different functions. They created Interpress a forerunner to Postscript fonts that allowed the user to resize and display fonts to any size. Then the user had the ability to print exactly what they had produced on the screen, on a new laser printer (that, oh right Xerox Parc had invented as well). Yes you cannot fathom how truly mind blowing the Xerox Parc efforts were.

It was as if the tech-geeks at Xerox Parc had given Xerox every major step in computers for the next twenty years. But on having this information, Xerox weren't too sure what to do it. The company was a slow lumbering leviathan, with old fashioned executives who simply didn't appreciate what they had. So they did nothing with it, sitting on it and just allowed Xerox Parc to continue to develop and hone their ideas.



The Xerox Alto was a truly ground breaking personal computer, that accurately foretold the future of modern computing. A 1979 promo video of it can be seen here...

<https://youtu.be/M0zgj2p7Ww4>

An emulator of the Xerox Alto exists. It is a little buggy, but great for computer historians.

<http://goo.gl/kMSOz1>

By 1977 Xerox did start to look to commercialise their idea but still didn't appreciate the urgency of getting to market. In 1979 Steve Jobs at Apple Computing arranged himself and fellow Apple employees a tour of Xerox Parc, and had a demonstration of the Alto.

Steve Jobs was simply dumbfounded that Xerox had sat on such technology and done nothing with it. In Steve's own words in the PBS documentary, Triumph of the Nerds TV show :

*"And they showed me really three things. But I was so blinded by the first one I didn't even really see the other two. One of the things they showed me was object orientated programming. They showed me that but I didn't even see that. The other one they showed me was a networked computer system...they had over a hundred Alto computers all networked using email etc., etc., I didn't even see that. I was so blinded by the first thing they showed me which was the graphical user interface. I thought it was the best thing I'd ever seen in my life.*

*Now remember it was very flawed, what we saw was incomplete, they'd done a bunch of things wrong. But we didn't know that at the time but still though, they had the germ of the idea was there, and they'd done it very well and within you know ten minutes it was obvious to me that all computers would work like this some day."*

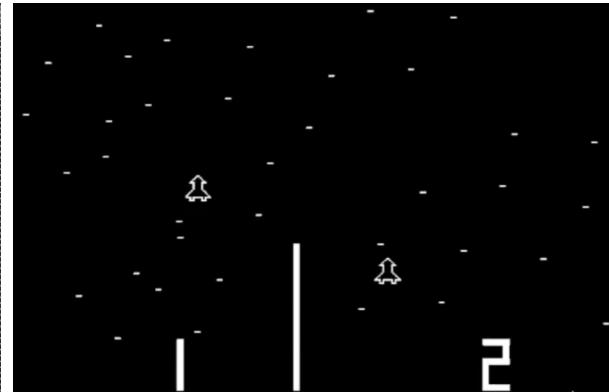


Steve Jobs  
(24<sup>th</sup> Feb 1955 –  
5<sup>th</sup> Oct 2011)

From that point on Steve would change the direction of Apple, working on a GUI based computer system, which of course culminated with the creation of the Macintosh released in 1984.



Apple Macintosh  
(1984)



Thankfully the DICE emulator simulates this game really well and so can be tried today.

<http://goo.gl/BljZuZ>

But back to the world of video games. By 1973 Atari, armed with its new logo was raring to take on the world.

**SPACE RACE**

**Super space gamesmanship.** Space ships race across the galaxy, dodging meteors and asteroids. Zap! Hit, they disintegrate, then another blasts off for another flight. Each successful trip through space earns an individual score. Totalized scores for competitor ships. One player can race the clock or fly two ships for a high skill test. Two players can duel through the meteor storm competing for high score.

**Great player appeal.** New. Sophisticated. And fun.

Lots of visual action. Excellent clarity. Sharpest TV image.

Constant video action in attract mode demands play. Electrifying space scenes are always beckoning - meteors are constantly moving, challenging the player to try his luck. They can't pass up this game.

Skill and luck factors. Just enough frustration to encourage replay after replay.

**Reliable.** Solid state. "Dura-tress" computer with one year warranty. Repairs after initial warranty period are made for nominal cost. Major components tested to Mil. Spec. 883. Rugged console. Precision engineering. Designed and built by the originators of video game technology. This means less downtime for your customer, less headache for you.

**Easy to operate and service.** Front access to major components and separately locked cash box.

**Clean, contemporary look.** Space Race can be placed anywhere and everywhere. Fine shops. Restaurants. Waiting rooms. Recreation areas. Reception lobbies. Offices.

**Fast profit-maker.** Game time operator-adjustable from 45 seconds to three minutes. Two plays for 25¢ at the rate of a switch.

**Dimensions.** Height: 58"; width: 25"; depth: 20"; weight: 217 lbs.

**Space Race.** Another winner from Atari, the reliable leader in video games. Call or write Mr. Pat Karns, National Sales Manager, for further details at:

Atari  
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(408) 374-2440

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Nolan Bushnell who was never that much of a fan of their first game Pong, would design their second game. Called Space Race, it was another two player game that has both players in space ships and race to the top of the screen, whilst dodging the moving dots that were asteroids. The game was the first video racing game in the arcades and is a really good fun arcade game to boot.

← Space Race arcade flyer

## ATARI'S NEW VIDEO GAME

2 or 4 PLAYERS

featuring new giant screen  
all solid state components  
one year computer warranty  
plus all the features of  
the original PONG.

2 players for 25¢  
4 players for 50¢  
operator adjustable to  
4 players for 25¢

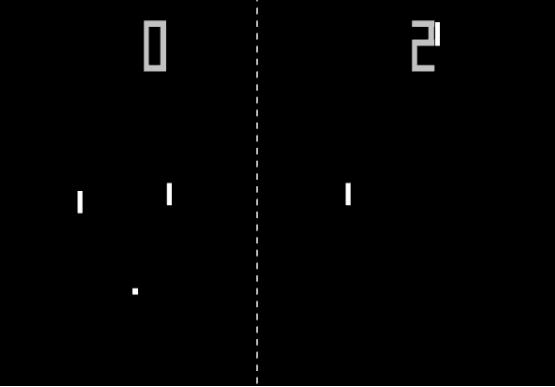
specifications:  
height — 56"  
width — 31"  
depth — 29"  
shipping weight —  
210 lbs



## PONG DOUBLES



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Thankfully the DICE emulator runs this game perfectly and so can be tried today.

<http://goo.gl/BljZuZ>

Of course, with Pong being such a massive success, Atari were hardly going to miss their continued cash-in, with Pong Doubles released in 1973.

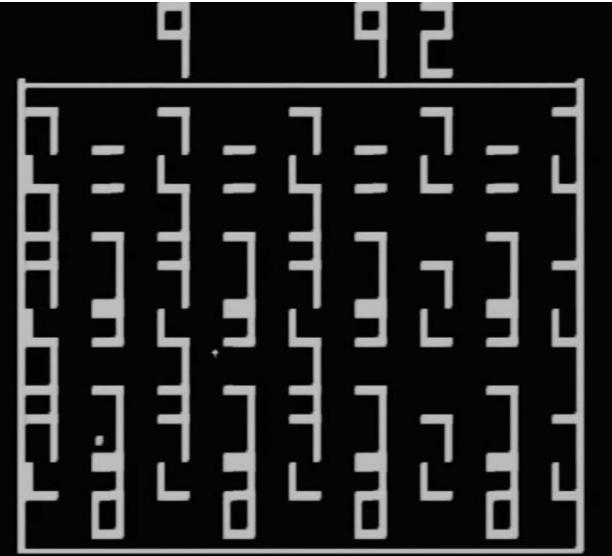
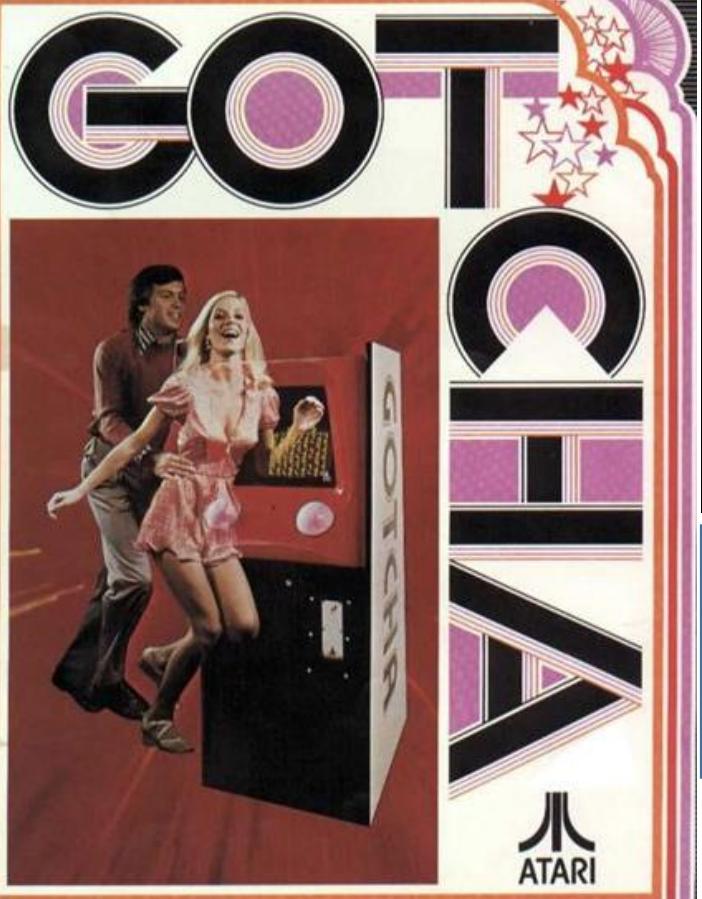
This game did what it said on the tin really, allowing four people to play, as opposed to two.

Ted Dabney also came up with the idea to do another variant of the Pong cabinet in 1973. The idea was to do Pong in a barrel that could also double up as a table. Another variant was to do Pong on the side of the barrel as a deluxe version.

The main idea, was that it could act as a table, which meant that small venues like pizza parlours and bars could still have the game without taking up too much space, as patrons could still rest their drinks upon it.



Atari would continue at the end on 1973 and 1974 to do other cabinet designs to try and encourage other venues such as doctor waiting rooms and shopping malls to buy the Pong machines.



Simon Claessons You Tube channel shows this game running on the original board.

<https://youtu.be/wsVA7-NhcBE>

The DICE emulator does this game. <http://goo.gl/BljZuZ>

Gotcha was the first game to cause controversy for Atari in 1973 on its release. The game itself was harmless enough, one player controlled the dot (the chaser) and the other played the plus symbol (the pursued). The purpose of the game was for the chaser to catch the pursued player to gain points. All this is played in an ever changing maze and you can bounce yourself against the maze walls to move more quickly.

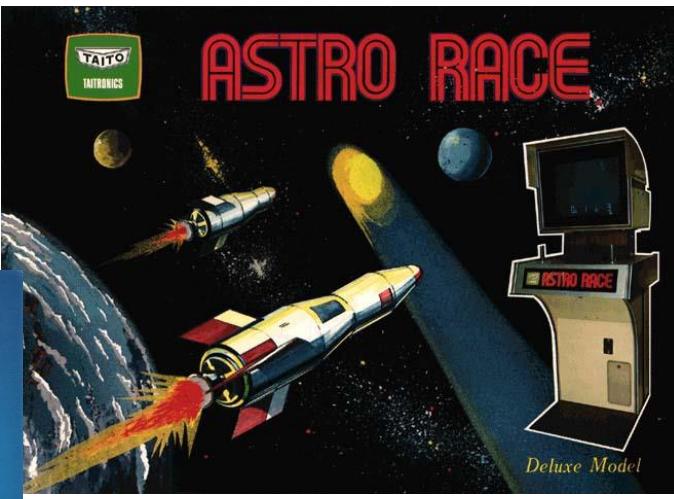
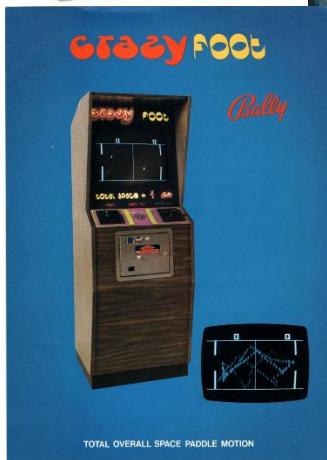
The game is quite novel really and quite good fun, the reason for the controversy was that the two controls were covered with a pink rubbery surface and (it was felt) made to look like breasts. Either way, many versions of the cabinet were changed to the more traditional phallic joystick ☺. Interestingly a colour version of the game was also made, and was released a month before the Pong clone Wimbledon, making this game the first ever colour game as well.

Here are just some of the many clone machines by rival companies, such as Midway, Taito and SEGA.



### Asteroids (1973)

Midway's Asteroids was a shocking clone of Space Race, being almost identical to Atari's game.

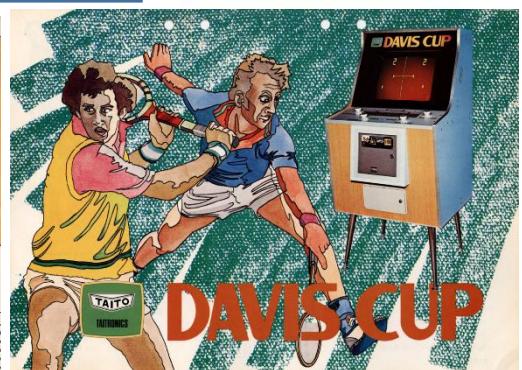


### Astro Race (1973)

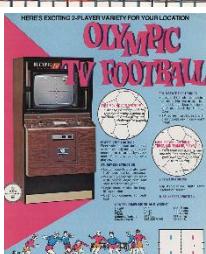
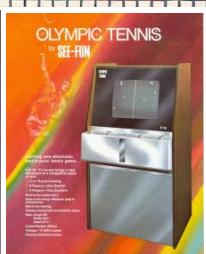
Taito's game was another identical clone to Atari's Space Race game.



### Hockey by Ramtek (1973)



### Pong Tron by SEGA (1973)



Davis Cup (1973) The first game by Tomohiro Nishikado who of course would go on to do Space Invaders.

Still there were other competitors including former employers Nutting Associates, who were putting out new games to rival Atari.

It was a tough time for Atari. They were suddenly growing at an astronomical rate, and Nolan Bushnell and Ted Dabney were beginning to feel the pressure. They had little experience actually running a company, and now the competitors could conceivably do a better job.

### **Leader by Midway (1973) →**

This game actually offered something different to Pong, you played with four players and had to each defend your goal on your side of the screen.



**N.A.**

### **missile radar**



### **← Missile Radar (1973)**

Nutting Associates would do an interestingly unique game where missiles would fall and you would have to line up and shoot them. Not too unlike the Missile Command premise Atari would do in 1980.

**N.A.**

### **Watergate caper**



### **Watergate Caper (1973) →**

Nutting Associates would play on the news of the Watergate scandal, where the player would have to break the code in time.

Ted Dabney was beginning to get annoyed with Nolan Bushnell, who was making decisions without his approval or discussion. Nolan was recruiting management people left and right, to manage the finances and the running of the business. People who Ted thought were poor choices. The real clincher according to Ted in the fantastic ComputerSpacefan.com interview (<http://goo.gl/JlJxQ5>) was when Nolan hired a General Manager without Ted even being told about it.

As Ted says in his own words :

*“Now I was down there near my office one time, and this guy comes in with this long hair, ponytail look about him and told me to give him my job description. I said, “What? I’ll give you shit! Get out of my office!” And I kicked him out of my office.”*

*“I went to Nolan, I said, “What the hell is this guy doing coming around asking me for my job description?”*

*“Oh! Well, he’s just trying to organize-”*

*“I said, “Look, you hire some guy as general manager without even, you know, over this area where I am, without even telling me about it.” I said, “That’s not right.”*

They were stuck in a totally unsuitable roller skating park building. They were cramped and stressed, out of their depth managerially speaking, trying to manage young people. They found a place more suitable in Los Gatos, but Nolan Bushnell was concerned how far away it was. Ted disagreed and they sat for the journey home from seeing it in dead silence.

On arriving back to the office, Nolan Bushnell and Ted Dabney was realising what it meant to be in charge and run a company. Nolan looked out at all the people and said, as Ted remembers :

*“All these guys are depending on us, aren’t they?”*

*I said, “Yeah. Not only them, their landlords, their grocery stores, everybody’s depending on us.”*

*“What’s it going to be like to be really, really rich?”*

Ted responded

*“I hate to tell you this, Nolan, it’s not going to be any different. The only thing that’s going to change are the number of zeroes.”*

Nolan at the time was frustrated at Ted’s negative answer, and things would go from worse to worst.



Eventually things came to a head, Ted asked Nolan to hop on their motorbikes and take a ride to a local pizza parlour to discuss things out.

Ted said to Nolan,

*“You’ve got a president that can’t do anything except decorate his own office, you’ve got a vice president engineer who can’t make a decision, you’ve got a vice president of marketing who doesn’t even know how to spell marketing.”*

*“you’ve got to get rid of these guys,  
you’ve got to get rid of them.”*

Nolan responded,

*“Well what do I do? These are friends of mine.”*

Ted Responded,

*“I don’t give a damn if they’re friends of yours, you’ve got a company to run and these guys are terrible!”*

From that point on, things were never the same between Nolan and Ted. Then came Kee Games. At the time all the main distributors of pinball tables demanded exclusivity deals with their customers. That meant some customers were nervous to deal directly with Atari. After all, arcade games may be the hot new fad, but pinball was the proven entertainment for decades. Why risk your relationship with Williams or Bally? Especially when they were making cloned Atari games anyway.

Also customers didn’t want to licence games directly from the manufacturer and be beholden to the latest hot games at any price.

Nolan Bushnell's answer was to set up another company that pretended to be a separate of Atari. This way that company could act a sales bridge and middleman to customers, but Atari would secretly retain all of the profit.

So Nolan hired an old friend Joe Keenan to head up a new company and they called it Kee Games. They would act as a rival to Atari, making new video games.

To set up such a company, that pretended to be a separate company but wasn't, was quite frankly very dark grey if not downright illegal.

Ted Dabney when he found out about it, went to Nolan to talk it out with him and hear the reasons why Nolan had done it.

Ted Dabney felt that Nolan had set him up. You see Nolan hadn't expressed the conversation about Kee games was for Ted's ears only, so when he had told fellow employees at the company it was seen by the board that he was in breech of his contract and terms.



Joe Keenan and Nolan Bushnell pose for the camera.



**KEE GAMES**

The logo for the new company Kee game.

So Ted Dabney was set before the newly appointed board of directors, whom he had vocally been so outspoken against to Nolan (and probably others), and whom incidentally were of course old friends of Nolan.

Ted was told in no uncertain terms to quit and sell his stake in the company, and if he refused, he was told they would move all assets to another company from Atari and effectively leave him with nothing.

So as a parting prize he was given Syzygy gaming, division and name, but with Atari asking massive unsustainable rent on the Syzygy building, and with only three employees, it was little comfort, and little more than a token gesture. Ted Dabney would struggle to run things for a few more years, before stepping away from the video game story.

On to 1974 and Atari, despite Ted leaving, was going from strength to strength with them making \$3.2 million dollars revenue by the end of 1973. But with the constant partying attitude, lavish spending and large workforce, Nolan was actually struggling to make sure they had the cash month to month, to pay the wages.

To put it in perspective, to cover all the bills, in 1974 Atari had to release a new game every 6 weeks, just to keep afloat. To make matters worse the open door employment policy Nolan had put in place, had resulted in some of the employees stealing arcade parts and selling it to the competition.

Thankfully Atari and its growing list of engineers, had no shortage of good ideas, and in 1974 Atari was once again leading the way, with gaming innovation.



One such game in 1974, was **Gran Trak 10**, and its deluxe two player version the **Gran Trak 20** arcade machine, that allowed to race you opponent for points.

In the game you would drive around the track, gaining points for passing checkpoints as the timer continually counted down. The Kee Games clone, was called Formula K and Twin Racer. This really is the first real racing game, one that gave you a steering wheel, gears and pedals, making you feel like you were a real driver. Still Atari actually lost money on each game due to miss pricing it, with it costing \$1095 to manufacture and Atari selling it for only \$995.



Superully has a wonderful video of the game in action...  
<https://youtu.be/uPSnhHx1s5w>



# GRAN TRAK 10™

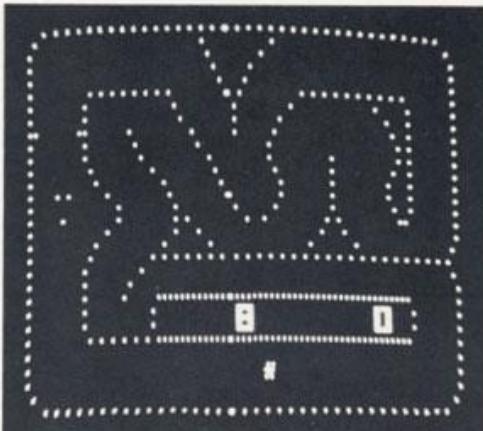
You can see it here . . . but you've gotta HEAR it! Gran Trak 10 is the breakthrough for 1974. Gran Prix racing action, complete with the roar of supercharged engine, squealing of tires around curves and heart-stopping crash effects.

## Fantastic!

Player drops in his quarter, hits the starter button, grabs the steering wheel, and he's off! Four-speed gear shift (1, 2, 3, R) changes speed of the car on the screen and the sound of the engine. Foot pedals for gas and brake demand quick reactions around road-race curves . . . and lots and lots of practice runs. At two bits a run.

## Designed For Arcades

Super crowd-attracting race car sound effects are realistic, with volume level operator adjustable. Racing graphics make Gran Trak 10 stand out in busy arcades. Sure to build traffic . . . and Gran Trak 10 racing clubs. Competition will be fierce, not only among the hot-rodgers, but also with the people who cruise in their Caddies.



Actual photograph of race course.

Colorful decals showing grandstands and checkpoints (not shown here) are applied to the front of video display.

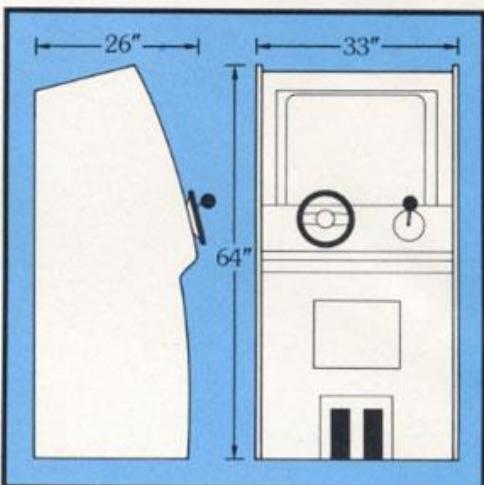
## Fast Profits

Gran Trak 10 game time is operator adjustable. Slowly-decaying game timer shows time left on

the video display. Improved 2-slot coin mechanism takes 25¢ in either one; one or two games per quarter is operator adjustable. Coin mechanism and rejector units are separated for ease of maintenance. 25¢ play standard . . . and worth it! (Nobody can drive it just once.)

## Built For Arcade Play

Completely solid-state, Gran Trak 10 is built to keep working. Atari's special DuraStress™ process makes the computer rugged and trouble free. Warranted for a full year. Major components tested to meet Military Specification 883.



## Dimensions

Height: 64" (162.56 cm); Width: 33" (83.82 cm); Depth: 26" (66.04 cm); Weight: approximately 400 lbs (181.6 kgs).

**GET TRAKKING!** Innovative leisure is what ATARI's all about. Gran Trak 10 is the best racing game you've ever seen . . . and heard! For the whole story, contact your local distributor or . . . **ATARI, Inc.**, 14600 Winchester Blvd., Los Gatos, CA 95030. Phone (408) 374-2440. Telex: 35-7488.

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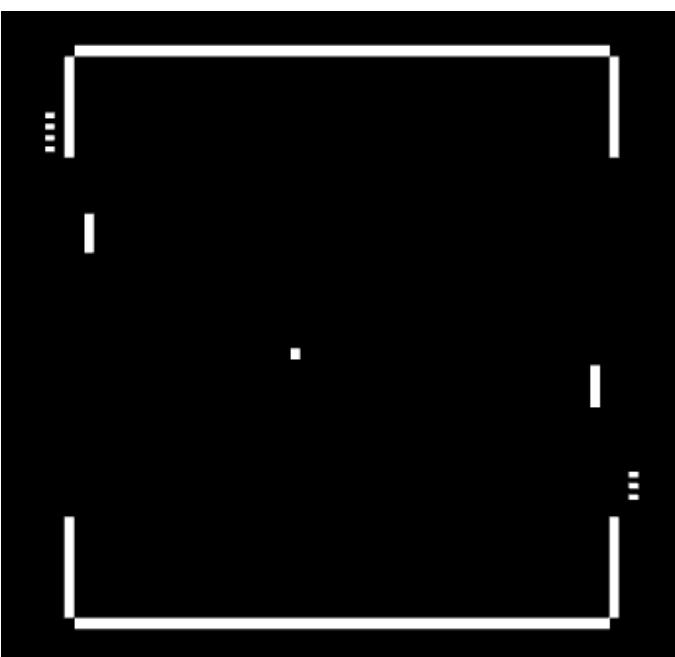
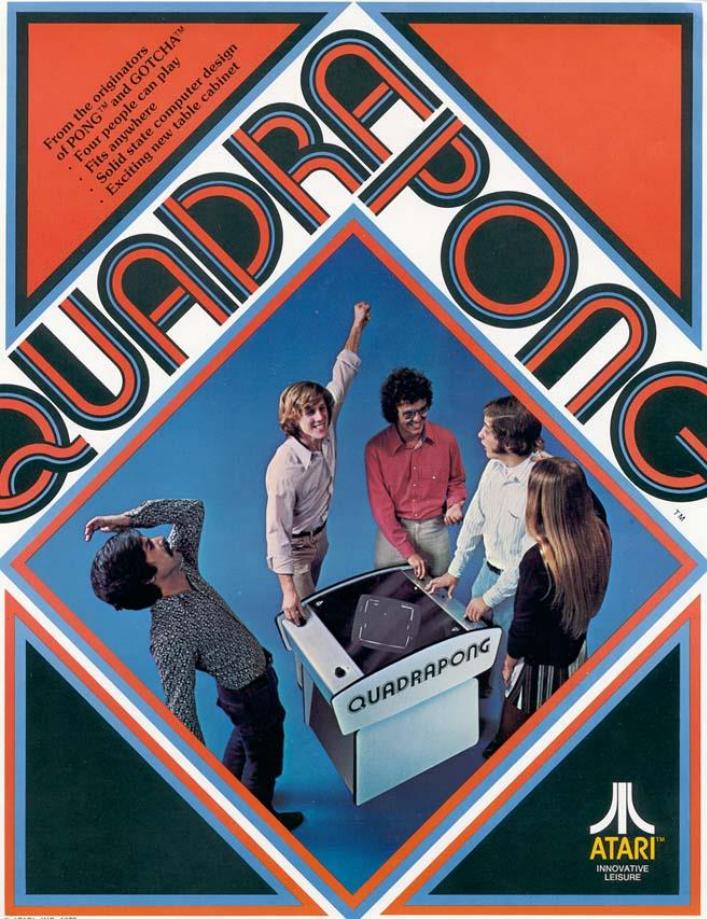
ATARI INC.  
14600 WINCHESTER BOULEVARD  
LOS GATOS, CALIFORNIA 95030  
TELEPHONE (408) 374-2440



Of course Pong mania was still in full swing, and so Atari would still churn out more sequels with **Super Pong**, that let each player have three bats locked together to move.

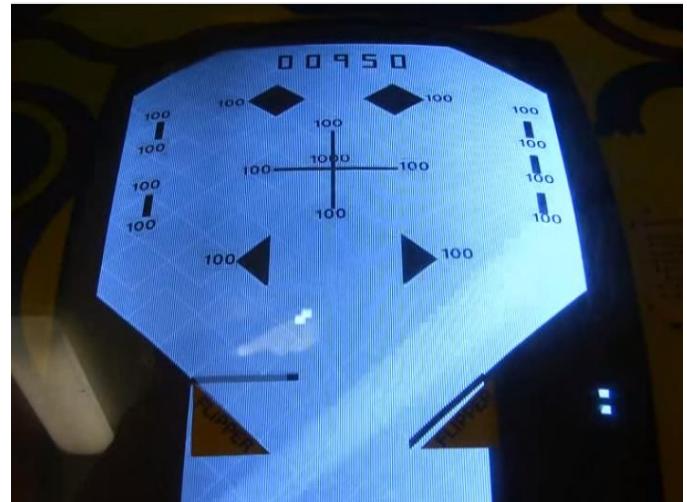
Andrew Welburne shows it playing off a PCB in this video.

<https://youtu.be/xmQ5VJdyLdE>



QuadraPong is full emulated on DICE. <http://goo.gl/BljZuZ>

QuadraPong (1974) was probably the pinnacle of arcade Pong games released. The game was 2 to 4 players and had each player protect their goal. Kee Games released it as a Elimination!

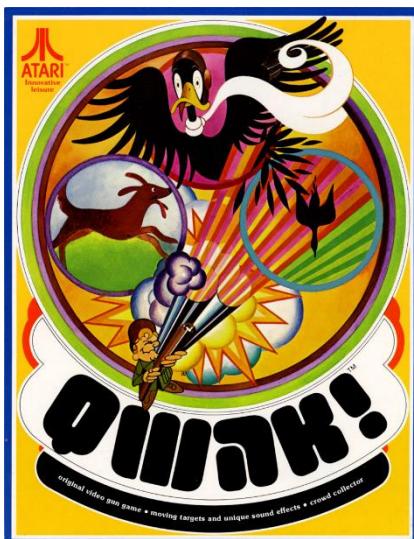


Another bizarre Pong offshoot by Atari was **PinPong** (1974). This essentially was a video game version of pinball, and gets the honour of being the first video game simulation of Pinball. A brilliant video from blinddog44 shows the original game in action here :

<https://goo.gl/yVQQ9p>

The game has also been emulated on DICE here :

<http://goo.gl/BljZuZ>



### Quak! (1974)

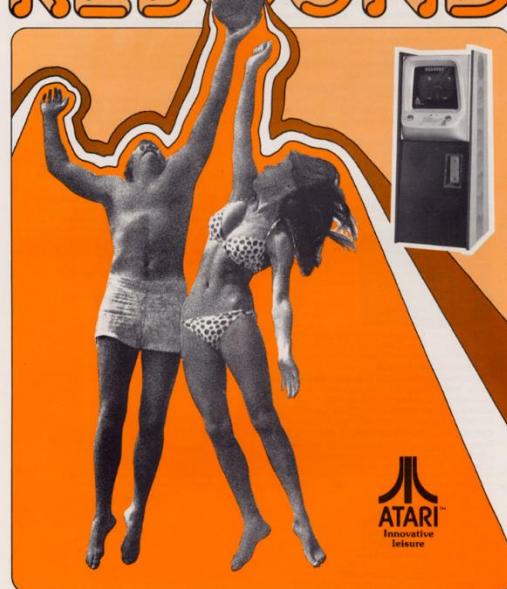
Much like a certain Duck Hunt released years later, this game had a duck fly across the screen and the player had three shots to shoot the duck. Only one duck would ever fly on the screen at any time.



George A. Romero's 1978 [Dawn of the Dead](#) Film shows the game briefly 1:33:44 minutes into the film.



IT'S A WHOLE NEW BALL GAME  
**REBOUND**



Thankfully the brilliant DICE emulator also does this wonderful game...  
<http://goo.gl/BljZuZ>

### Rebound (1974)

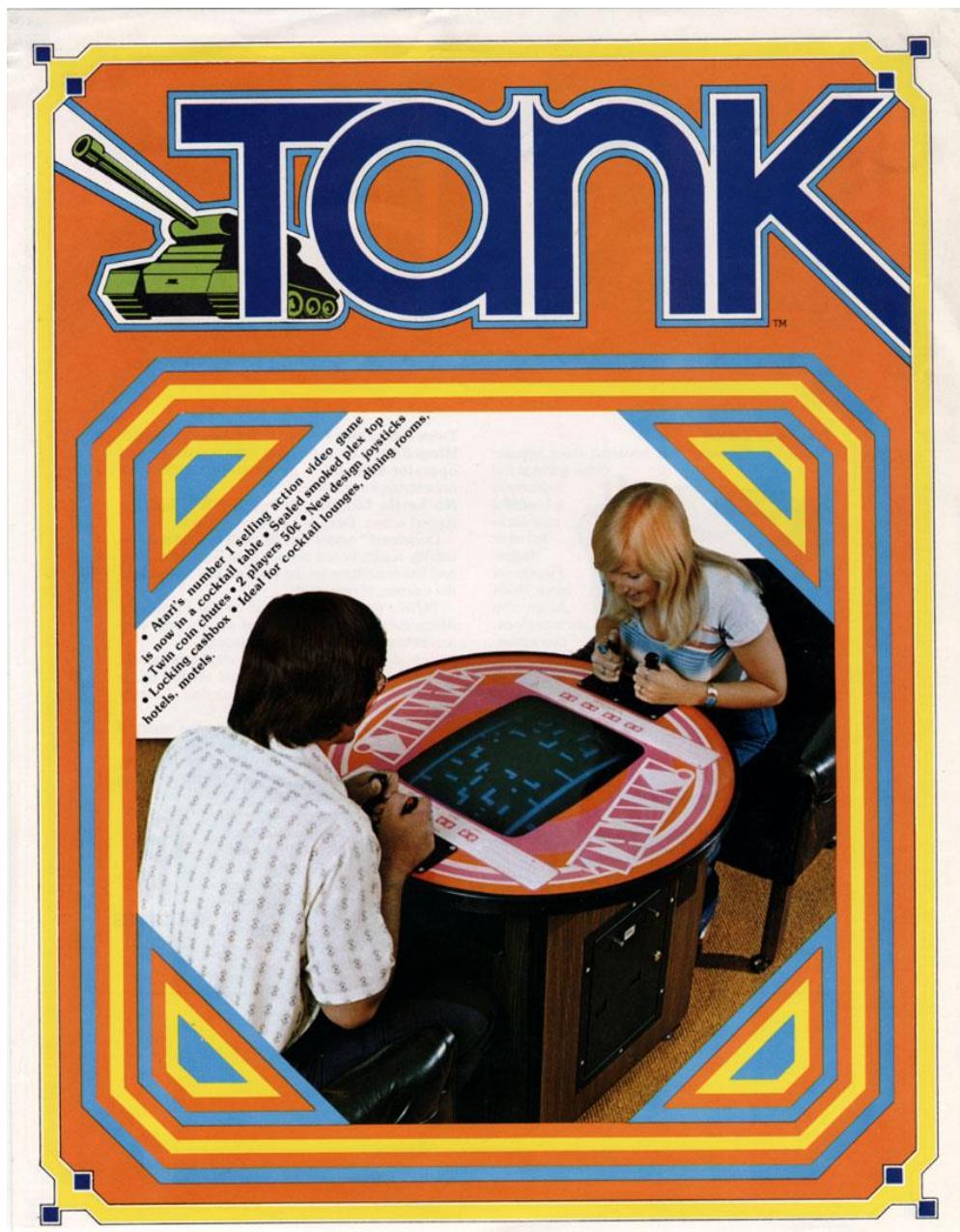
Another great Pong variant. This time it's volleyball and the bats are along the bottom, and there is a net. The purpose of the game is to bounce the ball over the net and score points. The Kee Games clone of this was called Spike.

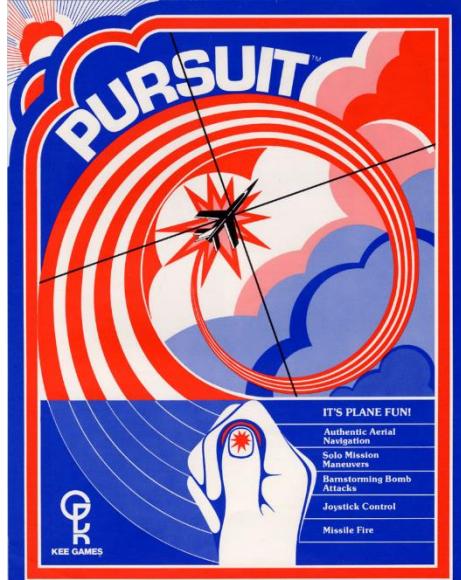
Despite some excellent games released by Atari and Kee Games in 1974, Atari (mostly due to poor control of funds) was going broke.

They had just had to settle out of court with Magnavox for Pong in April that year for \$700,000 to become an official license holder. What was particularly galling, was that all the Atari lawyers were telling them they could win, but at estimated legal costs of \$1.5 million, Atari simply didn't have the money to fight it. To say money was tight, was a bit of an understatement.

Thankfully Kee Games wouldn't just do Atari Clones (that would be too obvious). They also would work on their own arcade games as well. In doing so they actually made one of the most popular games of 1974 called Tank, which helped Atari be put back in the black, and back into profitability again. It was a game, that was so popular that Nolan Bushnell decided to officially merge the two companies under the Atari banner and make Joe Keenan the acting president of Atari, to run the business side of things.

With Atari's competitors still doing only Pong clones, it looked like Atari was yet again leading the way for video games.





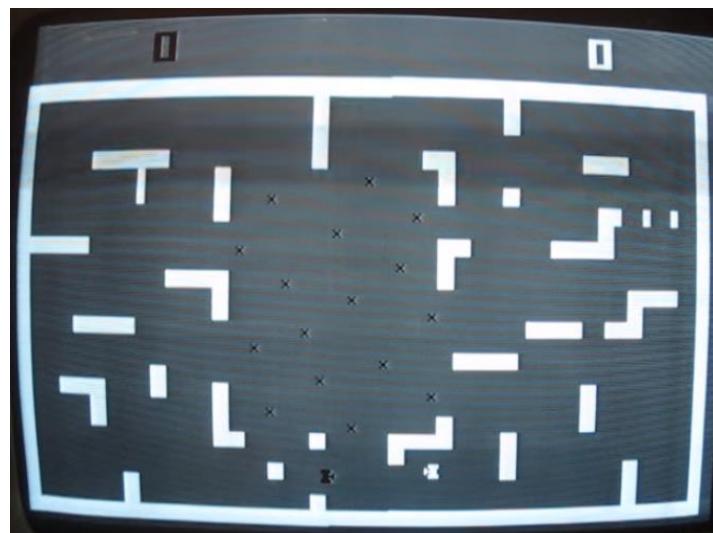
Pursuit by Kee Games in 1974, had you fly behind other enemy planes and shoot them down.

It is the first time a game gave things from the first person perspective, with you being in the plane.

Tank by Kee Games was released late 1974, it was a two player game, that had you take out the opponents tank. In the centre of the play area is a mine field, so only the most skilled would be able to use that part of the map.

Sadly the game doesn't seem to be emulated (although Combat on the Atari VCS or 2600 is a kind of sequel), but Agitator173's channel has a nice short video of the game running.

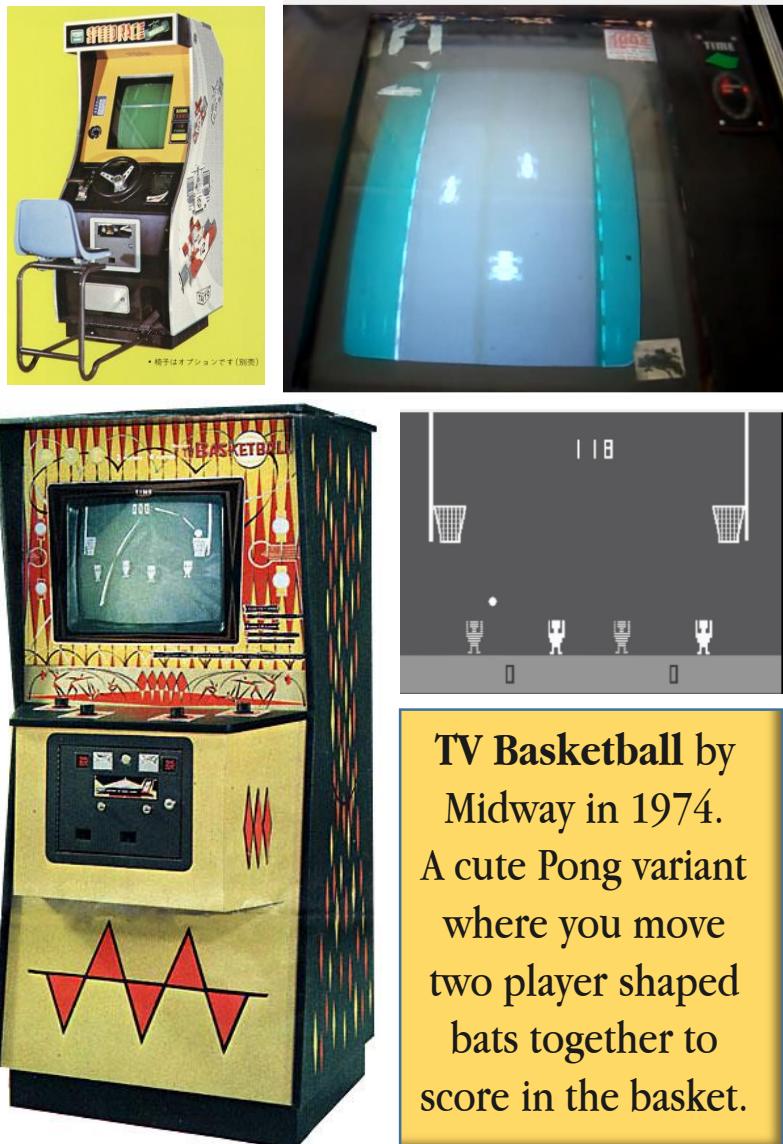
<https://youtu.be/3OsBUzYBJgU>



Most of the games made by the competitors in 1974, were just clones of what Atari was producing. But here are some other unique ground-breaking arcade games that were released :

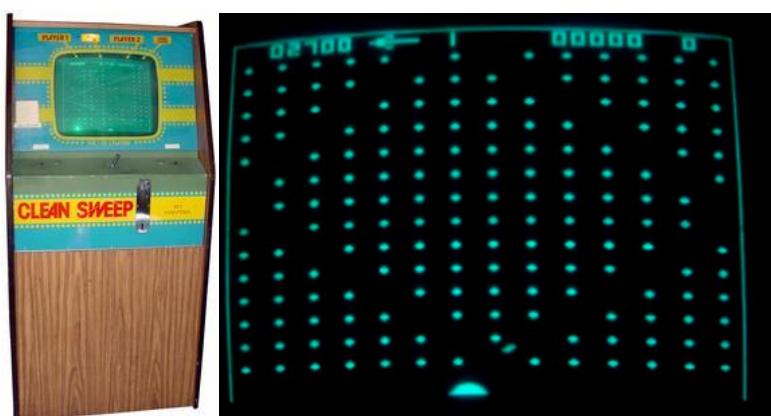
**Speed Race** by Taito in 1974  
was a game by Tomohiro Nishikado who would go on to do Space Invaders.  
A great overhead racing game and the first scrolling game. Sadly it isn't emulated yet but here is a great video of the arcade game...

<https://youtu.be/2BRDxZiK-1s>



**TV Basketball** by Midway in 1974.  
A cute Pong variant where you move two player shaped bats together to score in the basket.

The game TV Basketball can thankfully be played on the DICE emulator.  
<http://goo.gl/BljZu>



**Clean Sweep** by Ramtek released this year in 1974. This had you control a bat and must bounce the ball to clear all the dots on the screen. And yes, this came out before Breakout!

This also can be played on the DICE emulator... <http://goo.gl/BljZu>



### Laser Clay Range (1973)

Nintendo's first serious entry into arcade games, was the electronic based shooting ranges.

Nintendo's first foray into arcade gaming actually started in late 1973 when Gunpei Yokoi and his team would use projectors, letting the Japanese unwind by shooting virtual clay pigeons on massive screens, housed by buying up deserted bowling alleys. Interestingly on their big unveiling of the game, to the press in Kyoto it nearly ended in disaster, as when the press cameras started to roll, the targeting system broke down and didn't work. Thankfully the engineer who worked on the project (Genyo Takendo) snuck in behind the screens and manually registered the targets as successful hits or not, so averting public and humiliating disaster.



**Gunpei Yokoi**  
(10<sup>th</sup> Sep 1941 –  
4<sup>th</sup> Oct 1997)  
A total genius who  
would bring the  
world the Game &  
Watch and Gameboy  
for Nintendo.



### **Wild Gunman (1974)**

The game is really quite impressive really, and can be seen being played on this wonderful video here by the Ultimate Guide to Video Game History You Tube channel here :

<https://youtu.be/mzxcSalxaZg>



In 1985 Nintendo would release a spiritual successor called Wild Gunman in the Arcades and NES.

### **Shooter Trainer**

The game would project bottles and static targets onto the screen.

The game started a bit of a fad in Japan and really helped give Nintendo the confidence to enter the arcade market. Nintendo and Gunpei Yokoi would continue to ride this fad the following year in 1974, with the electro mechanical arcade games Wild Gunman and Shooting Trainer.

In these games they would project actual film footage of the cowboys and then when their head flashed you had to draw your gun and shoot. The system would then show a different video of the cowboy falling over dead and declaring you the winner or still alive and declaring you the loser.

Now I want to stress this (like the laser clay range before), these were not video games, but electro mechanical.

Sadly the fad would soon run out of steam in Japan (in large part to the oil crisis recession). And the once bustling shooting range centres across Kyoto and Japan would once again be empty.



Nintendo weren't the only Japanese company interested in this new emerging arcade market.

In this year of 1974, Konami Industries a jukebox repair company and two electro-mechanical arcade manufactures, Taito and SEGA also decided to start their own dedicated, well funded video game divisions. Strong competition was soon to be coming. But back over to universities, with students having access to more computer systems, it was inevitable that the vanguard of video games would continue its innovation here. One such game was a strategy game called Empire, written on a PLATO computer as part of an Iowa University computing class in Spring that year by John Daleske.

The game was a turn based strategy game set in space, where you got to control eight races (Federation, Romulans, Orions and Klingons etc) and players would have to conquer the Galaxy by war, trade and diplomacy. All whilst keeping the account books balanced.

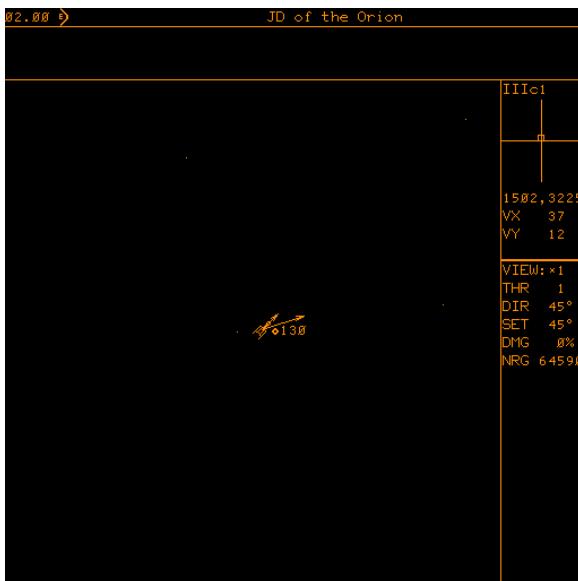
The game was fun, but its biggest claim to fame was that it was the worlds first networked game, allowing multiple computers across the university to play.



The PLATO IV terminals in 1973.



Empire, a later published version of the game.



Later Empire games would adopt graphical representations on the on screen action.



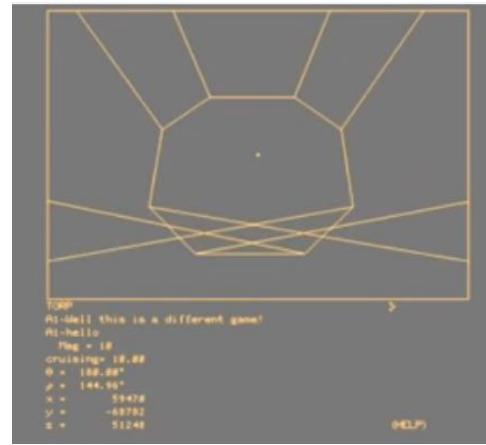
John Daleske attending the PLATO 50 anniversary. Apparently he is very tall.

In October 1973, Daleske would look to improve elements of the game. Empire 2 added the ability to control your ships and shoot one another. In many ways it was far more action orientated, concentrating on just the space combat, as opposed to the running of a galactic empire. Being multiple screens and more action focused, made the game extremely popular with University geeks and computer nerds alike. One person who saw the Empire 1 game was Silas Warner (who would go on to produce the 1981 Muse Software classic, Castle Wolfenstein). Silas made a variant of the game with Daleske permission called Conquest.

John Daleske would continue to ever improve his games throughout the 70's with fellow programmers such as Chuck Miller and Gary Fritz help to expand and extend the game.

To try Empire, a PLATO emulator can be found here : <http://goo.gl/PgtrSd>

Another game to lead the way was Spasim released in March that year 1974, with the name being shortened for Space Sim. It was created by Jim Bowery on the PLATO computer. Inspired by the game Empire, it had you fly around the Galaxy in your very Star Trek inspired spaceship, and all in glorious 3D. Therefore the game has to go down as the first ever, first person, virtual reality game. Later that same year Imlacs NASA research centre work by Steve Colley, would culminate in 1974 with the game Maze, this put players in a 3D maze from the first person viewpoint.



**Spasim (1974)** by Jim Bowery.

Standing for Space Sim, the game had the player fly around space in your own space ship.

A wonderful video of it can be seen here :

<https://youtu.be/nMZv5Akcum8>

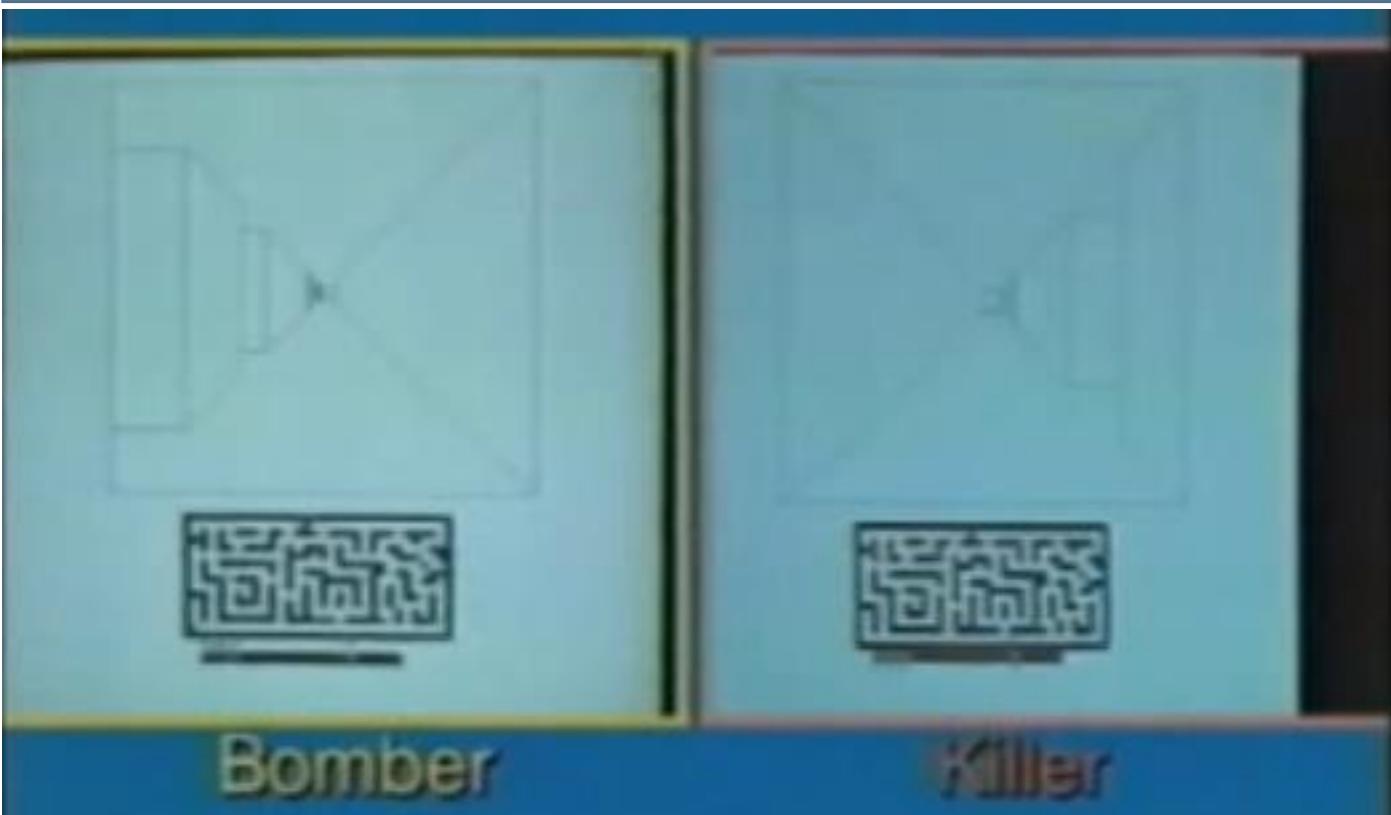


**Maze (1974)** by Steve Colley, Greg Thomson and others on a PDS-1 computer.

The game would have the player walk around a 3D maze with the player able to walk only forward, back and turning ninety degree angles. Finding the game a little dull, they added network play across serial ports to allow more than one person to be in the maze.

There is a lot of debate from video game historians on whether this game should be counted as the first ever, first person game or Spasim? Either way Maze would prove to be a major influence in 3D games, particularly within the role playing game genre. Soon video game pioneers would use the idea of Maze and set it in fantasy settings and the genre became known as a dungeon crawler.

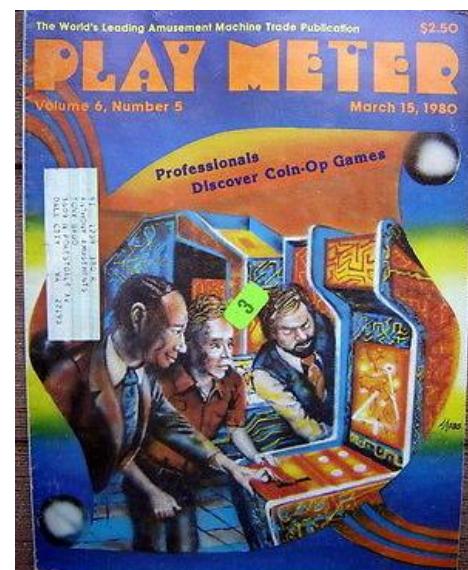
A wonderful demo of the **Maze Wars**, a sequel to the game Maze can be shown on some networked Xerox Alto machines in 1977 on the Bigkif You Tube channel : <https://youtu.be/7chDIySXK2Q>



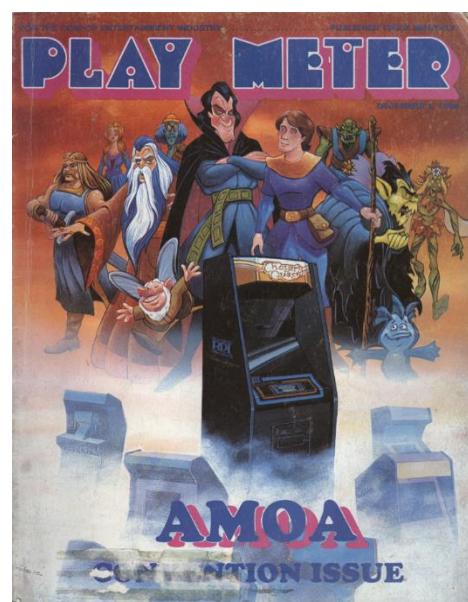
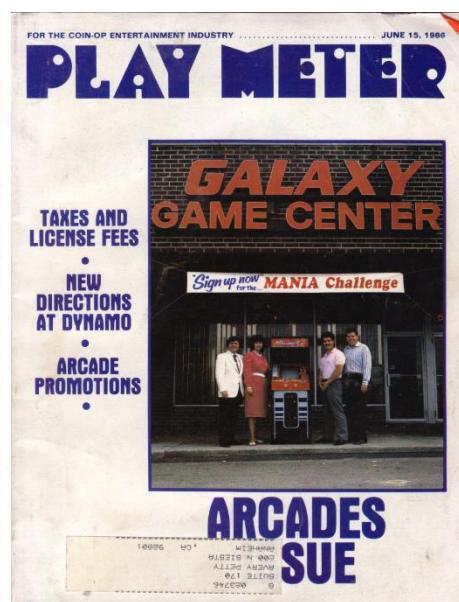
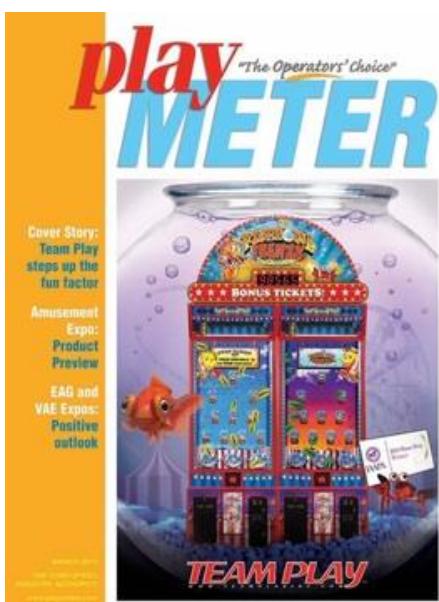
In December of 1974 another new first would happen, with the worlds first video game magazine. Beginning rather sporadically, it would catalogue all the news in the video game

industry, particularly in the arcades. It is a wonderful resource for video game historians and one I fondly hope that the copyright holders consider selling scans of these magazines to keep this information available for future generations. It is amazing that this magazine is still going strong today, this therefore makes it the longest running video game magazine ever :

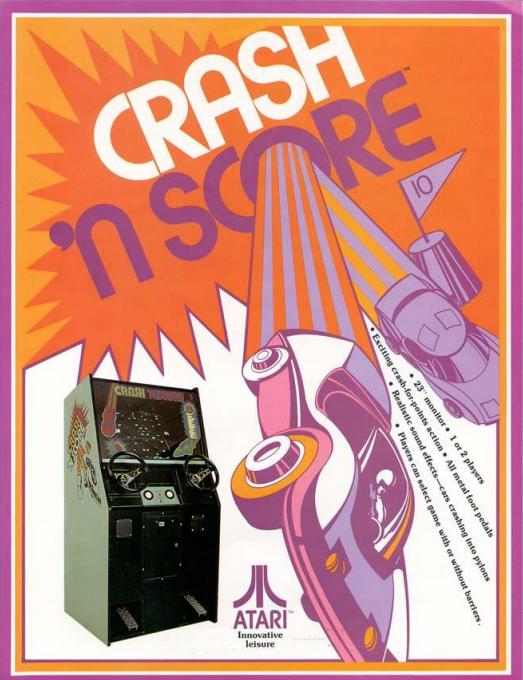
<http://www.playmeter.com>.



It is such a treasure trove for gaming history.



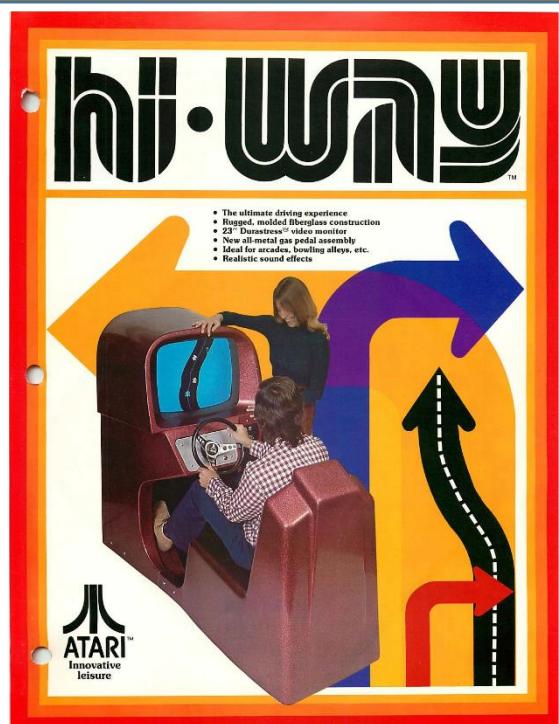
The year is 1975 and Atari is now finally making a bit of money and encouraging a host of new talent at both Atari and the now official subsidiary Kee Games, consequently it would result in another hugely successful and ground breaking year in the arcades.



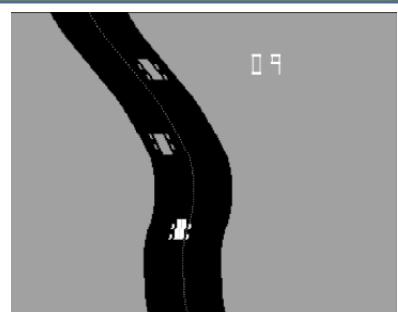
The DICE emulator also emulates this game :  
<http://goo.gl/BljZuZ>

### Crash 'n Score or Stock Car (1975)

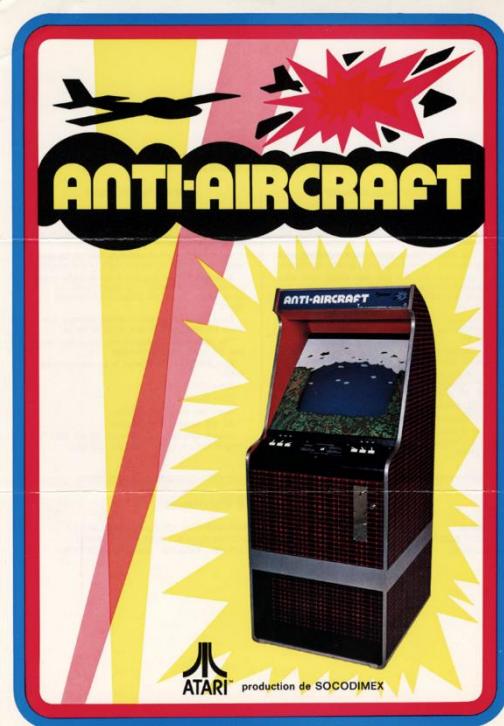
Atari's Destruction Derby game had 1 or 2 players racing to the flashing pylon. First one to each would receive the point. In single player you simply raced against the clock, to see how many pylons you could hit.



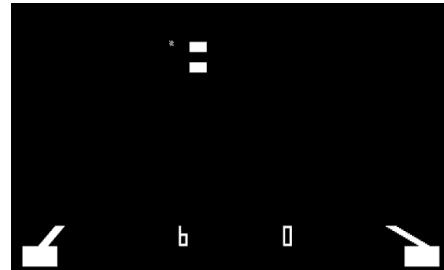
Thankfully the DICE emulator also emulates this great game :  
<http://goo.gl/BljZuZ>



**Hi-Way (1975) by Atari**  
An overhead racing game that is really good fun, with you riding on the twisting roads and gaining points for overtaking cars, whilst avoiding the oncoming traffic. Incidentally Atari patented the sit down style arcade cabinet with this game.



DICE emulator can  
emulate this  
game...  
<http://goo.gl/BljZuZ>



### Anti Aircraft (1975)

In this 1 or 2 player game the players control a gun turret and you must choose between three angles and shoot the airplanes.

### Indy 800 (1975)

Up to 8 player! In this overhead racing by Kee Games. It is similar to Gran Trak, but actually racing other cars. A wonderful game and the first ever 8 player video arcade game.



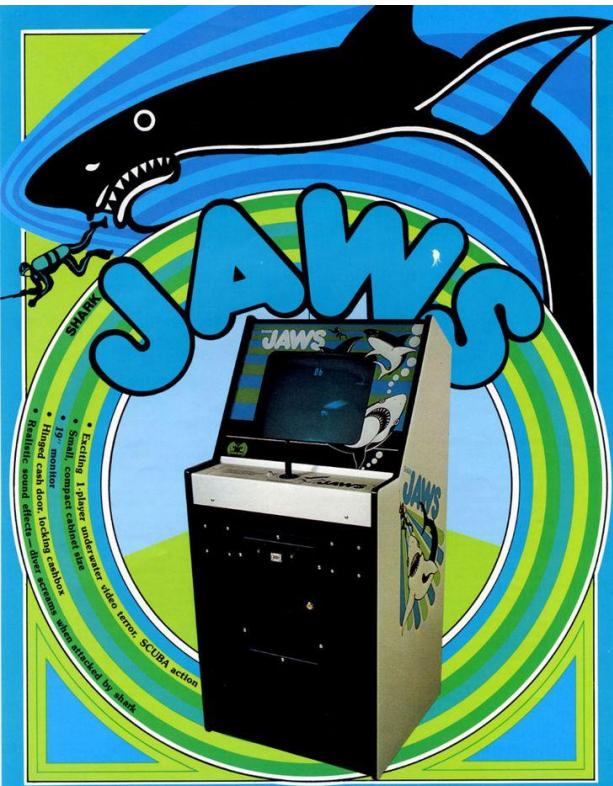
The game sadly isn't emulated , but Leopardus3 shows it being played :  
<https://youtu.be/pVXnNyXx6LI>



DICE thankfully  
emulates the game  
<http://goo.gl/BljZuZ>

**Jet Fighter (1975)**  
Atari's version of Tank with planes. A great fun game.

<https://youtu.be/LTnQcxT93SA>



Mr F4Brice has the game running on the real hardware here

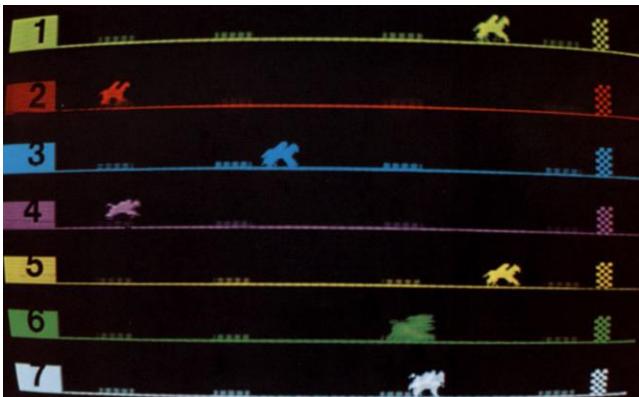
<https://youtu.be/xHUMNTpUMoE>

DICE emulator can emulate this game :

<http://goo.gl/BljZuZ>

### Shark Jaws (1975) by Atari

In 1975 the hottest film out was Jaws, so Atari (and many others) would release shark related video games to capitalise on gamers love of the film. Of course it wasn't officially licenced or anything. The purpose of the game was to play a diver, who for some in-explainable reason has to collect up all the little fish, whilst avoiding the shark. The graphics and animation was really impressive for the day, and the sonar ping sounds using a spring relay, really gave that haunting underwater feel.



A You Tuber has a great vid of it here :

<https://youtu.be/SD3QJsHnkbo>

DICE emulator can emulate this game :

<http://goo.gl/BljZuZ>

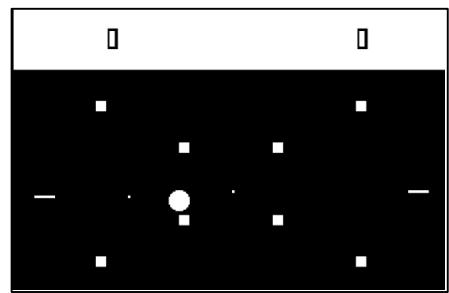
### Steeplechase (1975) by Atari

Notable for being the first game to have in game music (just slightly before Midway's Gunfight). The game allowed up to 6 players and the purpose was to successfully press the buttons in time to do each of the jumps and cross the finish line first.

## Crossfire (1975) by Atari

The game has two players shoot pellets at a ball to try and fire it into the players side of the screen to score a point. Only 10 machines were ever made. It is emulated on DICE thankfully.

<http://goo.gl/BljZuZ>

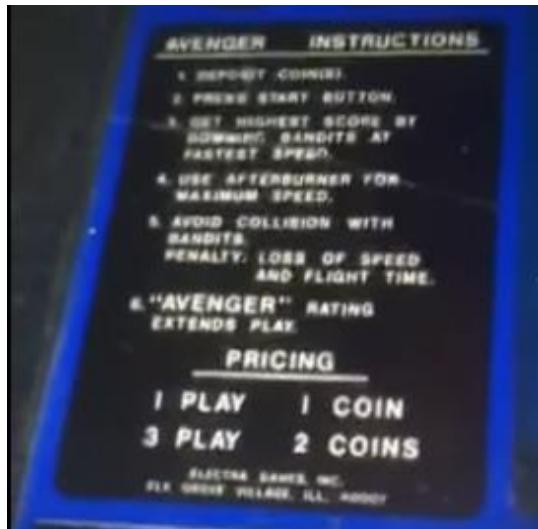
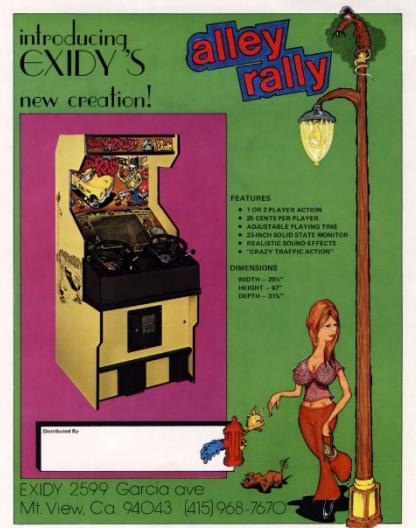


By 1975, the competition to Atari was becoming fierce. Now the other manufacturers were consistently making their own unique games and ideas, and in fact becoming first in many gaming elements. Here are some of the best games released by the competitors this year.



### Ally Rally (1975) by Exidy

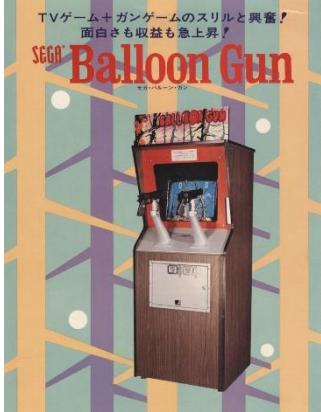
An overhead racer that had you race against a drone car. A point would be awarded each quarter of a lap driven.



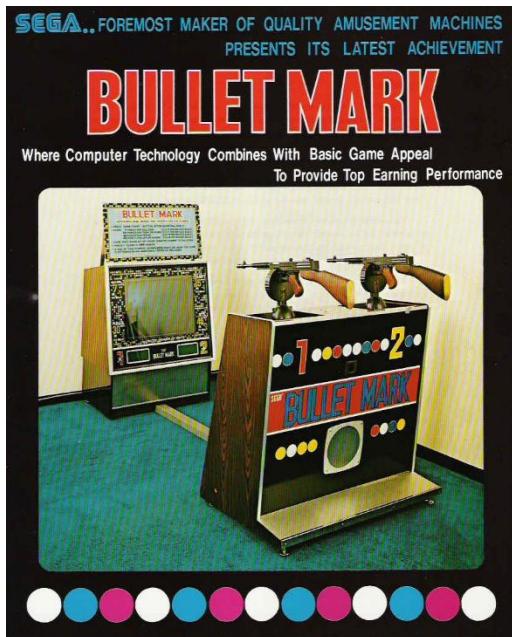
## Avengers (1975) by Electra

This game looks very exciting, with the clouds whipping past and the player having to dodge the enemy planes.

Countriggs has an almost working version of the arcade here :  
<https://youtu.be/dlrnFLl4eTM>

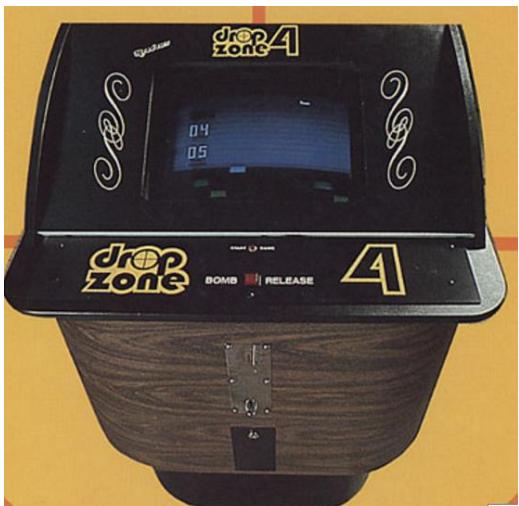


**Balloon Gun  
(1975)  
by SEGA**



## **Bullet Mark (1975) by SEGA**

4 target types would show on the screen, balloons, tanks, pirates & jet aircrafts. The player could then target with recoiling Tommy Guns, either choosing to fire single shots or in bursts.



**Dropzone 4 (1975)  
by Meadows**  
Drop bombs on moving targets below.



## **Fire Power (1975) by Allied Leisure Industries**

The game had you drive a tank whilst avoiding shots from planes and mines.



Here is a vid of it :  
<https://youtu.be/8pXCoCF6b4>

## **Maneater (1975) by Project Support Engineering**

What has to go down as one of the coolest cabinets ever. This Jaws inspired game has you play a diver whom must collect pearls whilst avoiding the hungry sharks. It looks a surprisingly fun game.



### Ski (1975) by Allied Leisure Industries

A really unique skiing game. The player has to use the novel foot controllers and ski between the slalom flags to gain points.

The game has a lot of charm and fun and has to go down as the first proper skiing video game (outside of the Odyssey overlay game that is).

### Video Pool (1975) by U.S. Billiards

Another first, this time the worlds first billiard video game.



The best video game of 1975 though, wasn't done by Atari at all, but by Japanese rivals Taito, and licensed to Midway in the West. That game was called Gun Fight (although in Japan and Europe it was called the slightly less catchy name of Western Gun).



Tomohiro Nishikado deserves far more recognition for his game designs beyond Space Invaders. Every game he did was truly innovative.

The game had originally been programmed with discrete logic, but when Dave Nutting localised the game for the US, he decided to move it across on the Intel 8080 Microprocessor, the first game to do so. As finally micro chips were cheap enough to use. Nishikado still preferred his original game, but was impressed with the smoother graphics and animation.

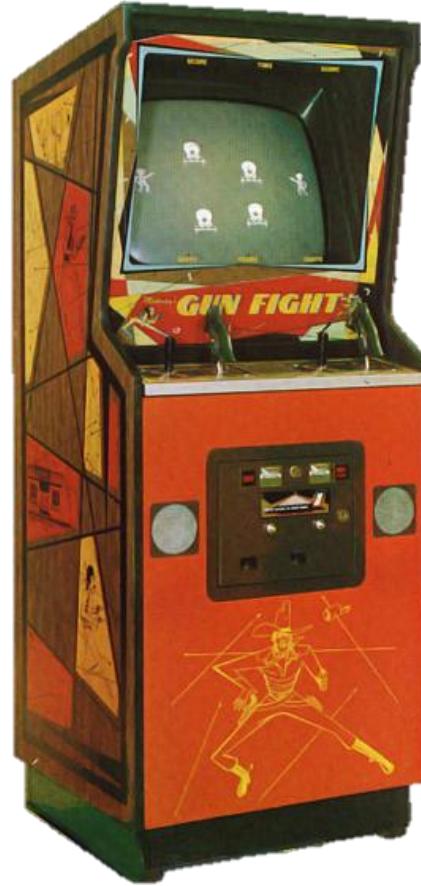


A video of Gun Fight being played can be seen here :

<https://youtu.be/xYa0G6KGayk>

The US version called Gun Fight, was converted to a micro chip and had improved graphics to the original game.

Gun Fight is thankfully emulated on [MAME](#)



The game itself was a two player game and involved a good old Western shoot out between the two cowboys. Each player controlled two sticks. The left smaller stick would control the cowboy's movements, the bigger stick shaped like a gun handle with the gun trigger could be pushed in three positions, forward, back and centred. This would direct the angle of the shot, as diagonally up, diagonally down and straight ahead respectively. In between the two cowboys would sit wagons and cacti that would act as cover and protect the shot.

It was a stunning game, being an addictive and competitive two player experience. The game was also noticeable for having in game music, which had been sampled by the Japanese electronic band YMO's (Yellow Magic Orchestra) version of The Funeral March by Chopin.





The game had twin sick controls, one to move the cowboy and the other to aim and fire the gun.



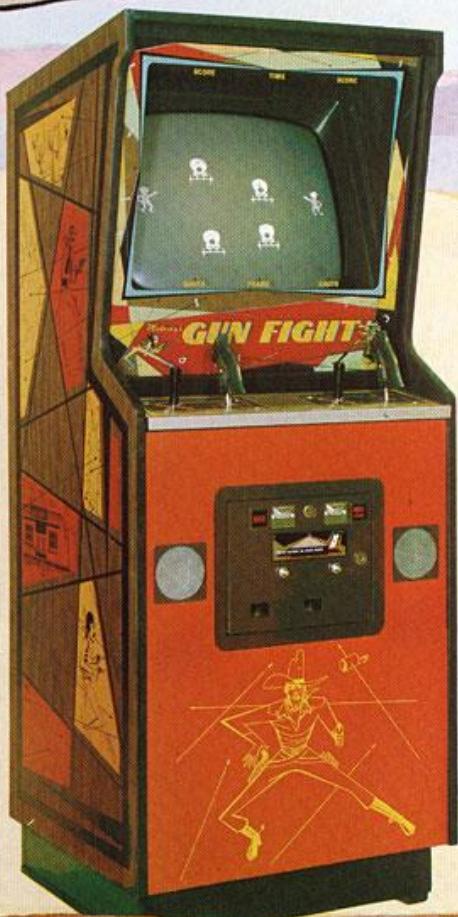
Gun Fight is a ground breaking game in so many ways.

It was also the first game to depict recognisable humans, that would shoot one another.

NEW FROM MIDWAY

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- COMPLETE PLAYER CONTROL of the cowboys
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- ADJUSTABLE TIME CONTROL
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67.31 cmW x 60.96 cmD x 165.10 cmH



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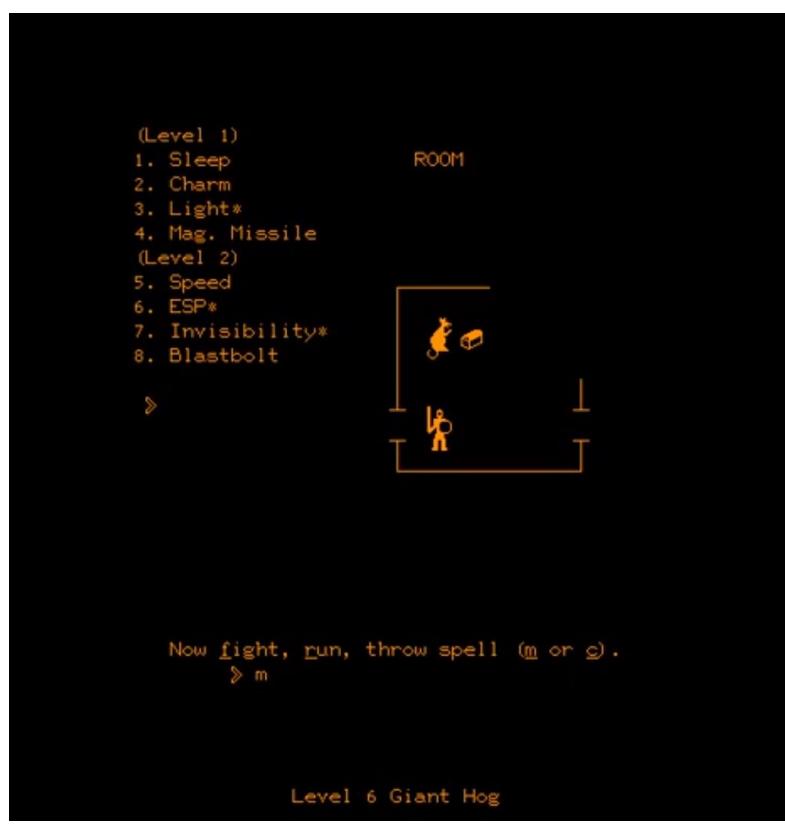
Computer systems would still be at the vanguard of video games in 1975. One game worthy of mention is PEDIT5 written on the PLATO computer, which is the grandfather of dungeon crawler games today.

It all started in the summer of 1975 in a place called Champaign-Urbana in Illinois, when Rusty Rutherford and his friends were addicted to the role playing game Dungeons and Dragons.

Rusty was desperate for a computerized version of the role playing game to be made, but apart from a game called m119h released in 1974 of which little is known, no official computer game seemed to be in the works. Rusty therefore, decided to try to write a game himself. It just so happened that Rusty's day job working as a PLATO programmer for the company Population and Energy Group, with one of the founding fathers of the PLATO system, Dr. Paul Handler as his boss.

So armed with such expertise Randy set to work writing his own Dungeons and Dragons game in the winter of that year, taking only 4 to 6 weeks to do so.

Choosing the standard file name for workspace in PLATO and adding the next file number of 5, the innocuous named game PEDIT5 would look to create new worlds.



PEDIT5 (1975) PLATO system [[pic](#)]

The PLATO system was limited so Randy could only design 40-50 rooms in the game, to still allow enough space for the character sheet to be programmed. To add interest, he did make the monsters and treasure in the dungeon randomly placed so the game would be different for the player each time they played. According to Randy Rutherford it was a basic game by todays standards, but is still a lot of fun despite its simplicity.

Sadly the original game code was deleted off the machine and has been lost to us. Thankfully a group of other individuals did their versions of the game based on the code of PEDIT5. Games like The Game of Dungeons, and the game Dungeons that came out soon after. One of my personal favourites based on his code was a game called Orthanc (named after the Lord of the Rings and the black tower in Isengard that Saruman is in). This game is still playable online today with PLATO system emulators like

<http://www.cyber1.org/>.



Orthanc (1975) PLATO system

But back to Atari and Christmas 1975 and early 1976 would finally turn them from a company doing pretty well, to a company that was starting to earn some serious money.

It had begun two years earlier on the 3<sup>rd</sup> of August 1973, when Nolan Bushnell asked for a home console that was colour and could rival the Magnavox Odyssey.

Al Alcorn was becoming interested in the new area of micro chips, so he phoned up his ex Atari work colleague Harold Lee. Harold used to be a chip designer before working for Atari, but he had recently left Atari for feeling burned out. Harold confirmed to Al Alcorn that it was indeed possible, and so suddenly Harold found himself offered a contract to set up his own small company called MOS Sorcery and work with Al Alcorn in creating a home Pong console.



Harold Lee or Harry to his friends. You can watch an interesting video of him showing the Applicon machine to design chips, that he co-created :  
<https://youtu.be/4OivW9Ftbgs>





Harold Lee proved the perfect man for the job, being one of the few people in Silicon Valley, California, who actually had the skills to produce custom chips cost effectively.

By January 1975 they had created a finished product and was ready to show the public the Pong machine at the New York Toy Fair. It was met with interest, but as they discussed with multiple prospective buyers, Al Alcorn and Gene Lipkin realised how much out of their depth they were. They weren't even able to answer crucial questions, like how much the manufacturing costs would be. They were also out of their depth in the way big stores treated manufacturers. A good example of this was the Tandy Corporation, who owned Radio Shack stores. The buyer said he was interested, but wanted an "Anticipation Discount", when Al and Gene asked what one of those was, they were told that Atari had to pay Tandy an extra discount in anticipation that Tandy might pay them. To Al and Gene this seemed a completely ludicrous demand, to pay Tandy, so they would pay them, and turned them down flat.

Realising that the electronic chain was probably not the way to go, the Atari team instead focussed on other distribution channels.

Being inspired by the Odyssey, they first tried TV manufacturers, but when no interest came from any of them, the Atari team then tried to think a bit more out of the box. Now it just so happened that Gene Lipkin at Atari, had inadvertently got to know Tom Quinn at Sears. Tom was a person in the field of buying sporting equipment for Sears, but he was also a think out of the box kind of maverick, who had an uncanny ability to smell a good thing before anyone else. He had seen the success Sears had with bundling the Magnavox Odyssey with TV's and so knew there was a demand for such things. In fact the biggest limitation Sears had, was that Magnavox weren't making enough of the consoles for them to sell.

So when Atari said they could meet the projected sales orders no problem, Tom arranged for Sears to be given a live demo of this new Home Pong device.

It was a nervous time for Atari, Al Alcorn, Nolan Bushnell, Joe Keenan and Gene Lipkin sat in the lavish executive room, in Sears main headquarter offices, the Sears Tower Chicago. On the other sat Tom Quinn and the other Sears executives looking to be impressed. But when Al switched on the Home Pong device, nothing happened, they just couldn't get a picture. You can imagine the nervous silence as Al frantically worked out what had gone wrong. Maybe Nolan making nervous small talk, but still not able to defuse the palpable tension in the room that could be cut with a knife.



Sears Headquarters in Chicago, Illinois where the Atari Home Pong device would have been shown to Sears.

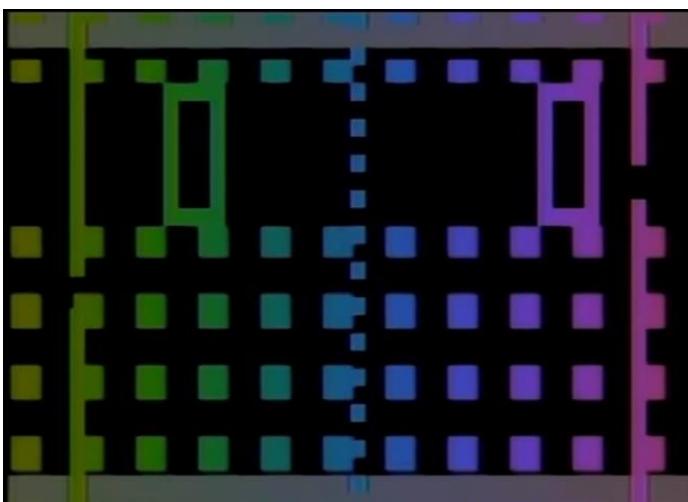
You see it turns out that the executive board room they were in, was under one of the most powerful transmitting antennae's in the area, and it was high jacking the same broadcast channel that Home Pong used. Thankfully, Al Alcorn knew his stuff and so he identified the problem and was able to root around the indecipherable rats nest of wires to change the broadcast channel and get the prototype working.

They must have done something right, Sears was very interested, and was willing to move into a deal with Atari. Sears proved to be the perfect partner for Atari, using their considerable experience at creating consumer products to help Atari complete their first home console.

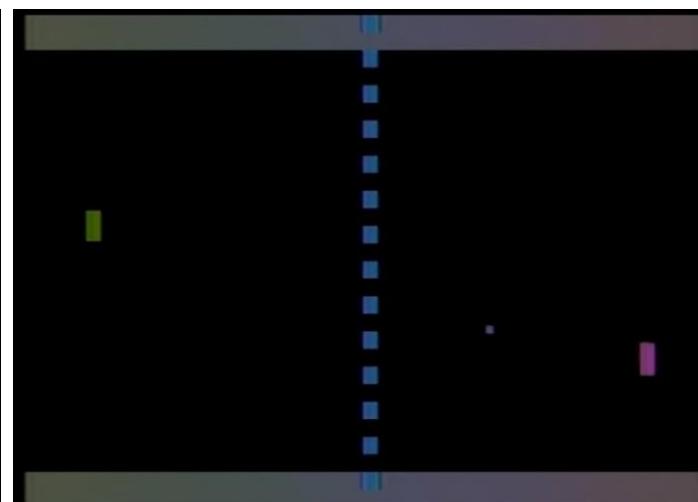


The Sears branded Atari Home Pong was called Tele-Games Pong. Atari would later also release their own version to other vendors.

Selling for \$98.95 (\$435 or £300 into todays money). It was a mighty impressive system, with full colour and sounds, making it even better than the arcade game. Playing the device today is a real treat, I cannot express how cool and funky Atari made the game, with colour bursting from the screen, and the score only showing when you scored a point, to give you full screen action. I would seriously be thrilled with this if it came out today, so back in 1975 people must have been simply gob smacked at it.



The title screen shows off the colours.



Home Pong is a funky version.

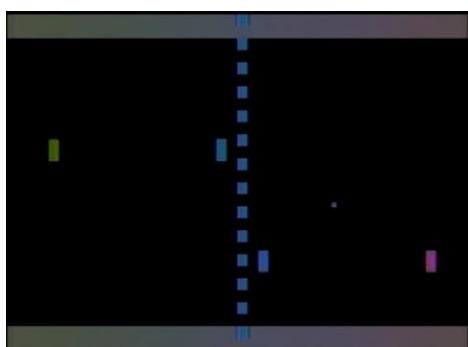
The device was a huge success for Atari and Sears, with Pong mania really taking hold. The trouble was, that for every expensive Atari Pong game sold, there was at least seven knock off cheaper clones sold. Sure the clones, were often black and white, and many didn't even had scoring, but as we all know, price counts and many people just opted for the cheap and cheerful knockoff, instead of going for the original.

The following year in 1976 Atari would follow up with Pong Doubles, Super Pong and Super Pong 10 . Super Pong is my favourite, this not only had Pong, but three other Pong variants for people to enjoy.

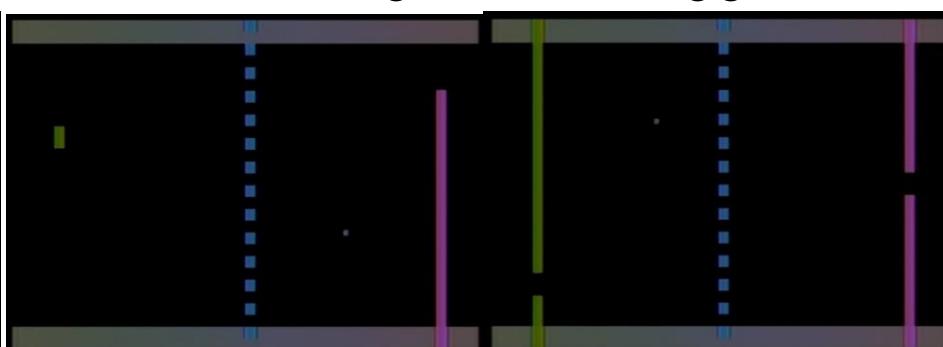


You really do need to see this console in action, to appreciate its awesomeness. A top review of the machine can be found at ClassicGameVault Channel here...  
<https://youtu.be/Qhy6LkQoygc>

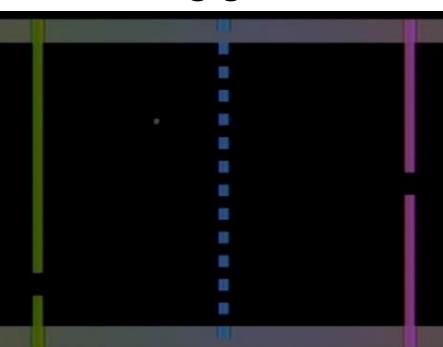
Below are the other games on the Super Pong console, along side the original Home Pong game.



Doubles Pong, This was traditional Pong, but with two bats for each player, locked together in their movement.



Basketball Pong, This is a single player game, set player 2 height for ease of scoring basket or all the way up for a game of rebound.



Inverse Pong, where points were scored by getting the ball through the gap.

Over 1976 and 1977, there was a dizzying array of Pong machines that came out, and that was just Atari branded. When you take into account the Sears variants and the countless knock offs, you could really do a dedicated book of them. I am not going to go through them all here, but here are the main ones I consider the most interesting ones :

To learn more I heartily recommend the web site  
<http://www.pong-story.com>, which goes into them in far more detail than I am willing to go here.



Pong Doubles (1976)  
2-4 Player of Home Pong



Super Pong Ten (1976)  
1-4 Player and ten game variants.



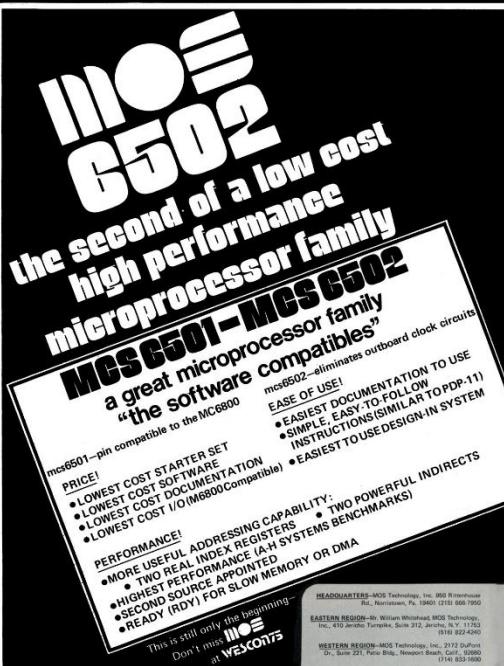
Super Pong Pro-Am and  
Pro-Am Ten (1977)



Ultra Pong and  
Ultra Pong Doubles (1977) with  
sixteen game variants.



Over in the world of computing in 1975, another chip would be sold. Called the MOS Technology 6502 chip. This chip designed by Chuck Peddle for Motorola, was a revelation at the time, massively undercutting the cost of all the competition. For video gaming, this chip's importance is often overlooked. You see this chip made computing power cheap enough for personal computers and consoles to finally be feasible. To put it in perspective, this essentially would be the chip used (or a slight variant thereof) for the Atari 2600, Famicom and NES, Commodore Pet, Vic-20, C64, Atari 800 and BBC Micro (to name just a few of the systems that used this revolutionary chip).



**MOS 6502**

**the second of a low cost high performance microprocessor family**

**MCS 6501-MCS 6502**

**a great microprocessor family**

**'the software compatibles'**

mcs6501—pin compatible to the MC6800

mcs6502—eliminates outboard clock circuits

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- LOWEST COST SOFTWARE
- LOWEST COST I/O(M6800 compatible)
- LOWEST COST

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- MORE USEFUL ADDRESSING CAPABILITY:
- TWO REAL INDEX REGISTERS
- HIGHEST SOURCE APPORTED A/H SYSTEMS
- SECOND SOURCE FOR SLOW MEMORY OR DMA
- READY (RDY) FOR SLOW MEMORY OR DMA

EASE OF USE!

- EASIEST DOCUMENTATION TO USE
- SIMPLE, EASY-TO-FOLLOW INSTRUCTIONS(SIMILAR TO PDP-11)
- EASIEST TO USE DESIGN-IN SYSTEM

mcs6502—eliminates outboard clock circuits

\*EASIEST DOCUMENTATION TO USE

SIMPLE, EASY-TO-FOLLOW INSTRUCTIONS(SIMILAR TO PDP-11)

EASIEST TO USE DESIGN-IN SYSTEM

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But it wasn't just in the designs of micro chips. People would also see a revolution in the personal computing world, with the Altair 8800. Initially announced late in 1974 for the January 1975 electronics magazine called Popular Electronics. It was only for nerds and geeks, being in kit form initially, and with no keyboard (you entered all commands by flicking the switches). But it was the first personal computer ever released, only costing an amazing \$439 in kit form (about £1340 in todays UK money).

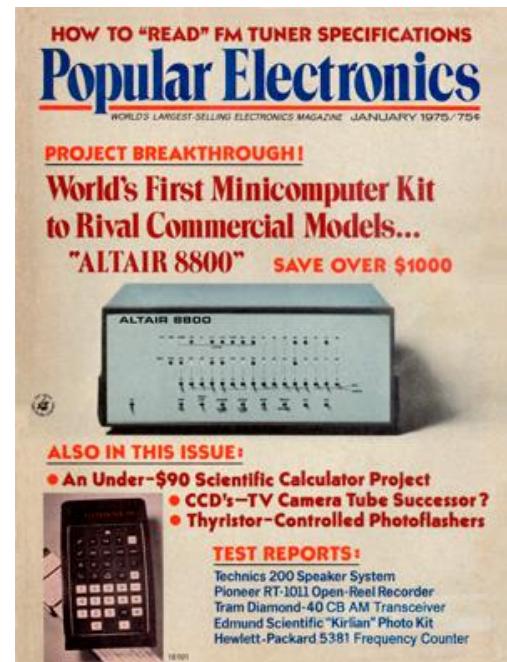
Suddenly computing would move out of the shared University or computer lab. Now anyone (with a bit of disposable income) could buy their own computer!!!

This was exciting news for a certain Bill Gates and Paul Allen and enough for them to drop out of Harvard University and set up a company called Micro-Soft to build their first operating system for it, called Altair Basic.

Like their subsequent Microsoft operating systems it took about five versions, before Altair Basic was stable ☺.

an online Altair emulator is available here.

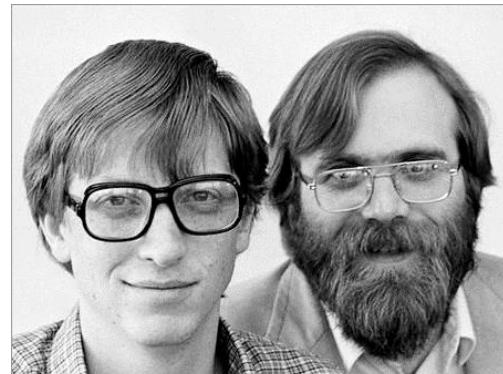
<http://www.s2js.com/altair>



Popular Electronics magazine would first announce to the world the Altair 8800 computer. The world's first personal computer.



The front control panel of the Altair 8800.



Bill Gates and Paul Allen

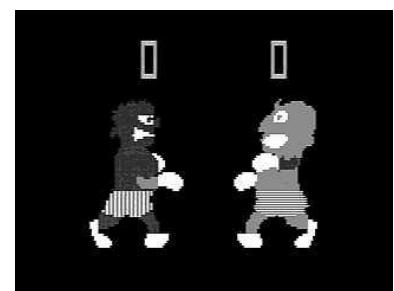
1976 would be another amazing year for video games. With the video game market truly beginning to explode around the world. No longer were manufactures nervous to invest, being worried that it was all a passing fad. By 1976, many were confident that video games were here to stay, and so consequently were willing to throw serious development money at this new market.

One such company was SEGA. They had of course been involved with mechanical arcade games since 1966 with Periscope. But they had only up until this point made knock off clones of Atari games. But this year they would release a number of exciting, unique and impressive video games onto the market.

### Heavy Weight Champ.

Released in 1976 and not to be confused with the SEGA 1987 game of the same name and cabinet.

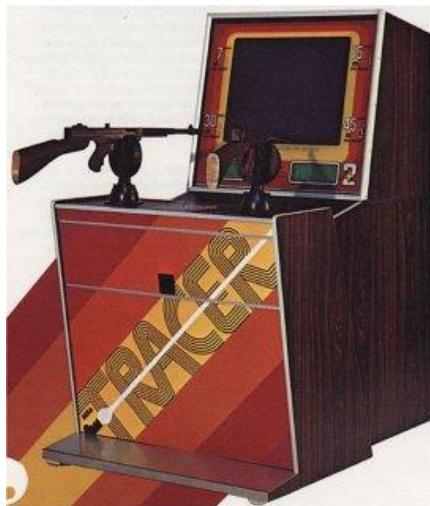
This was a lavish cabinet with boxing glove controllers that allowed to punch high or low and pushing forward to punch. Every successful punch scores a point. It is a dull game if truth be told, just being frantic punching. Still the large representation of cartoon boxers, really helped put SEGA on the map for making original video games. Sadly this game isn't emulated anywhere, and most cabinets were upgraded to the 1987 version. So you have to really be lucky to be able to play it today.



Other SEGA games released this year was equally impressive.



**Road Race**  
Was a pseudo  
3D style  
overhead racer.



**Tracer and Rock 'N Bark variant.**

This was an cabinet update to Bullet Mark, with more targets. A brilliant video of it in action can be found here... <https://youtu.be/-Nub1ww6BC0>



**Fonz /  
Motor-Cross /  
Man-TT**  
Like Road Race  
but with bikes.  
Where you had  
to avoid traffic  
to score points.

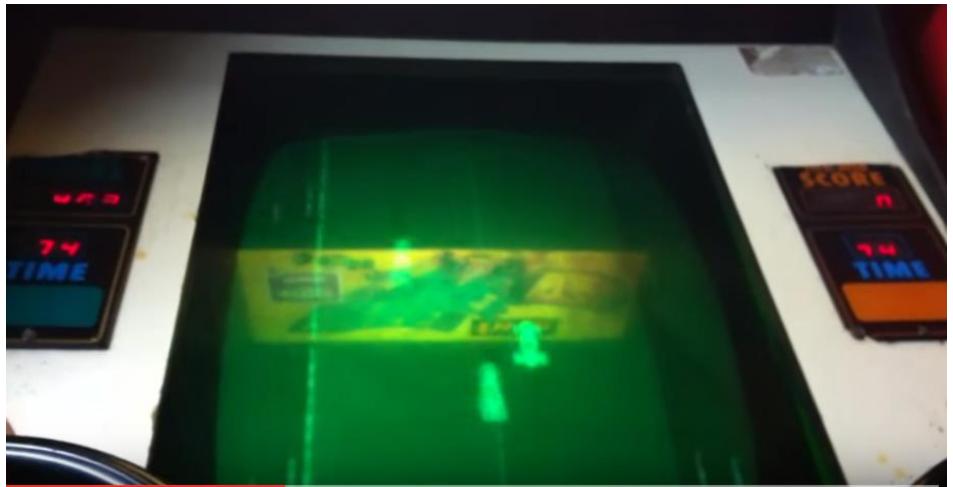


**Tic Tac Quiz**  
A game of Tic-Tac-Toe  
where you must answer  
questions to move.



**Squadron**  
A two player  
versus, jet fighter  
game.

Taito were also producing some classic games this year to give Atari a run for its money. Here are some of the classic games released.



### Speed Race Twin (1976)

This two player racing game, and was their two player 1974 sequel to Speed Race. The game is fun with a great sense of speed. To see this game in action, then check out this brilliant video by

McMorton here :

<https://youtu.be/Svnj2wCW4QI>



### Interceptor (1976)

Another Tomihiro Nishikado (see pic left) classic game, being the one he made before his Space Invader game shot him to stardom.

This had you sat in a World War 2 plane cockpit and line up and target the enemy air craft. The planes don't fire back, but the game is a lot of fun.

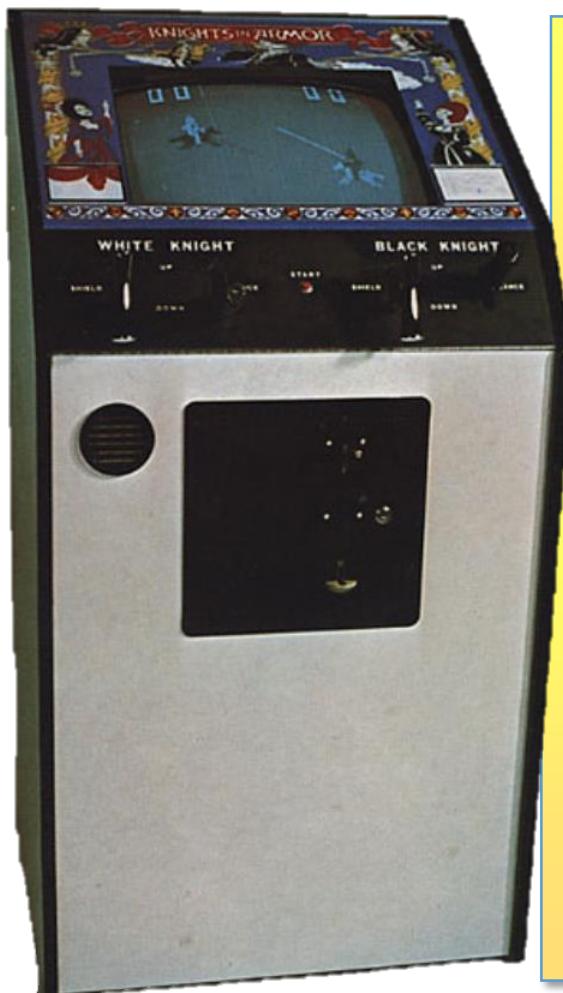




### Attack (1976)

Another Taito gem was called Attack. This had two helicopter machine guns and had you blast away at the fast moving jeeps that went across the screen. Sheloves123music has a great video of the game being played, which can be watched

here... <https://youtu.be/ewhjLAte-Do>



### Knights in Armour (1976)

Long before the Williams arcade game Joust, there was another game by Project Support Engineering that had knights attempting to joust. Little is known about the game today. But I felt it worth mentioning here, simply for its uniqueness.

### Heavy Traffic (1976)

By Digital Games Inc.

It was another overhead, dodge the cars game, but is noticeable for having a bike handlebar controller.





## Death Race (1976)

Originally inspired by the 1975 film Death Race 2000, this game would be the first video game to spark controversy for the game itself. In the game you had to frantically drive around, running down the monsters for points, leaving behind grave stones. The game sadly didn't sell well back in the day, and is still sort after as not properly emulated. Here is a brill video of the game in action <https://youtu.be/Njdz0-igfDY>



The game was made by Howell Ivy, who also did the Barricade, Circus & Chiller.

But again, of all the companies making video games, it was Nolan Bushnell's Atari who would continue to produce the best games, and lead the way in the arcades. This was in large part because of the laid back, party hard, work hard ethos that Nolan had set up there. Such a unique, hippy, anti establishment work environment being a new way of doing things. It was something very much in Nolan's heart, and also worked enticing the best of the best to ignore lucrative and safe jobs at IBM and Intel and instead go and work for Atari.

One person who was enticed by Atari was an individual, dressed in hippy like clothes and not smelling that great, asking for a job. Al Alcorn remembers, they didn't know at Atari whether to kick the guy out or give him an interview. They decided to give him a chance and found he spoke very persuasively and eloquently, with a huge amount of passion, and so they decided to give him a chance.

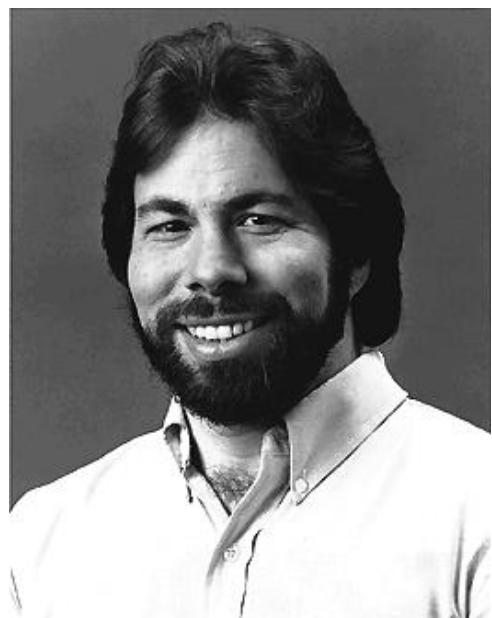
That person was Steve Jobs (who would later co-found Apple) and they gave him a project, to write a game idea of a bat hitting bricks for \$5000. They even offered an incentive of a bonus for every chip removed in the design. The fellow engineers at Atari, began to realise that Steve Jobs was more talk than technical, but he had this shy friend come over to Atari in the evening. This other guy was massively technical and would actually write the game for Steve Jobs,



**Steve Jobs**  
(24<sup>th</sup> Feb 1955 – 5<sup>th</sup> Oct 2011) Co-Founder of Apple, Steve Jobs would first go and work for Atari to write a game.

That person was of course Steve Wozniak (the other co-founder of Apple) and when Nolan Bushnell and Al Alcorn first met him, and saw the Pong clone he had built himself (even with four letter swear words when a point was lost), they offered him a job on the spot. Steve Wozniak though had his nice stable job at Hewlett Packard, and wasn't going to risk moving to Atari.

Still he continued to help them out. So when Steve Jobs asked Steve Wozniak for help on writing a game, with the further challenge of reducing the number of chips used to 200 or less (that most Atari games were reaching at that point) it was like a red rag to a bull for Wozniak, who relished such technical challenges.



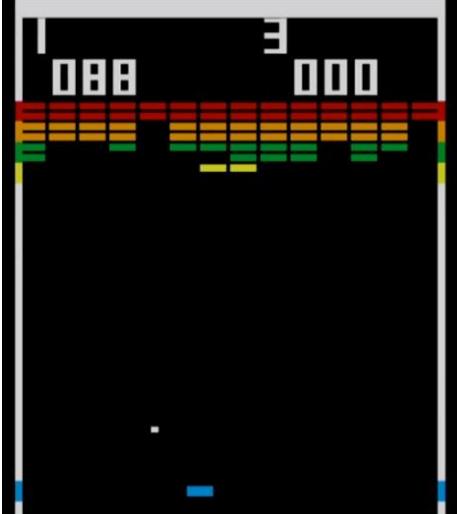
**Steve Wozniak**

Co-Founder and

technical brains behind  
Apple, would design and  
write the game Breakout  
for Atari. Only being  
paid \$300 to do so by  
Steve Jobs.

He was paid only \$300 dollars by Steve Jobs (which he believed was half what Steve was paid). Steve Wozniak loved the challenge, and armed only with a verbal description of what the game was he would set to work. Steve Wozniak sat down and wrote the game Breakout. This wasn't just an amazingly good and fun game, but a real feat of engineering, with Wozniak reducing the number of chips used down to only 45!!

Sadly the clever design was a too much for the Atari engineers, who ended up actually redesigning the game on more chips, as they simply couldn't understand how Steve Wozniak had done it, and were worried, how they would fix the machine.



## Breakout (1976) by Atari

The game was mightily addictive and a worldwide hit. Here is a video of it on real hardware

<https://youtu.be/NOGO49j5gCE>

The best way to play the game today is either simulated on the application DICE (<http://goo.gl/MrE4Ch>) or play it on the 13 in 1 TV Games Atari Paddle or Atari Anthology on PS2, Xbox and Windows.



The game Breakout was a revelation for the time, being really playable, with the simple idea of a bat bouncing a ball against some bricks to disappear honed to perfection. You see it turned out that Steve Wozniak, as well as being a gifted engineer and a natural game designer. Being able to naturally know what makes a good game, and instinctively getting the right gameplay balance between being too tough and still be challenging.

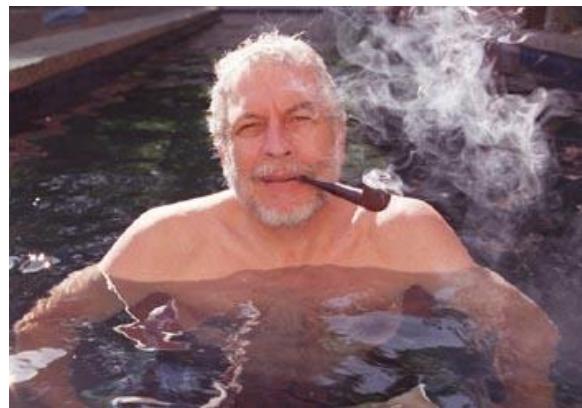
It would be the game that inspired how all bat and ball games would be done since. It was also a worldwide hit, with Japan going crazy over the game in particular. In fact it was this game, that inspired Taito game designer Tomohiro Nishikado to try in some way to recreate the addictive fun of making the bricks disappear, with his next game Space Invaders.

You would think with such a worldwide hit Atari would be a company with more riches than they knew what to do with. The sad truth was that Nolan was still stressing month to month to make everyone's pay checks.

The problem was piracy, Atari was spending a fortune in research and development (R&D) designing the games. Then within weeks of releasing a game, countless rival manufacturers would simply rip off the game, undercutting Atari as they didn't have to worry about the R&D costs, and only manufacturing.

Take Breakout for example. This, outside of Pong, was the most pirated game up to this point. So most of the game's revenue Atari simply never saw. It is perhaps slightly ironic, that if Atari had kept to Steve Wozniak's original chip designs, the game would have been far tougher for its rivals to copy.

For Nolan though, things were tough. Atari was keeping in the financial black, just about. But if a few games was a massive flop, or Nolan wanted to progress any big ideas, they had no chance. One thing Nolan was very keen on was launching a games console. He had heard rumours about a company called Fairchild working on a cartridge based video game console, and Nolan wanted Atari to do so as well. But Atari simply didn't have the funds for such an endeavour, it was frustrating.



Nolan Bushnell's Atari, may have been known by its Hot Tub meetings, and chilled, work hard, party hard attitude. But for Nolan the constant stress to balance the books and expand the company, was exceedingly stressful for him.

Nolan also had to turn down new ideas offered to him. For example, a few months after doing Breakout and leaving Atari, Steve Jobs and Steve Wozniak would return to him, showing Nolan their new machine and offering Atari to fund the business. Steve Wozniak had built himself a personal computer. Called the Apple 1 computer, the idea was to do it in kit form for people to buy.

Nolan was impressed with the machine, even if Steve Job's pie in the sky ideas of mass producing it for the non geeks and a PC computer in every home, seemed crazy. Nolan really wished the guys well, but explained how all his money was tied up with their own game console and he had to turn them down. Of course we all know the end of that story, how Steve Jobs and Steve Wozniak would get a venture capitalist interested and mass market the Apple 2 computer and do quite well.



The Apple 1, which Steve Jobs and Steve Wozniak offered Atari to go into business with them and Nolan refused. The Apple 2 would continue to be a huge success. Steve Wozniak made sure the Apple 2 was able to play games and made a Breakout clone for the machine.

Nolan was stressed, tired and looking for a way to get some serious funds in, to give them the financial safety cushion and allow him to seriously look to launch his own game console.

So in October of 1976, Nolan decided to sell Atari Inc. to Warner's Communications for \$28 million dollars. It seemed the perfect solution to Nolan's problems. He would finally have the financial clout to release a games console and experiment with more riskier projects. Not just that, Warner's agreed to make him Chairman of the Board and Joe Keenan still as acting president. It seemed like the perfect plan, with Warner's promising to invest \$100 million dollars into developing an Atari home game console.

But it wasn't just Breakout, for Atari in 1976. They would have a string of popular and innovative arcade games released this year.

One of the most impressive games by Atari was called Night Driver, a first person racing game.

Now I want to stress, contrary to popular belief Night Driver, wasn't the first racing video game in first person.

You see there was a game called Nürburgring 1 in Germany. The game was created by Dr Reiner Foerst and had a very limited release in 1975, really only being played in a small town of Giessen. The game proved very popular with the nearby Students at Giessen University however.

In one way the game was more impressive than the better known Atari classic. Dr Roberts had added an impressive system for sounds, with an analogue saw-tooth generator to create impressive engine sounds and screeching of tyres.

The machine was successful enough for Dr Foerst boss to look to make more of the machines, which they did do in March 1976. But they never had the budget to compete, and the game today is largely forgotten.



**Dr Foerst**

His 1975 arcade racing game

Nürburgring 1 was the real father of first person racing games.

The game Nürburgring 1 was spotted by a company called Micronetics Inc. They were so impressed with the game, that they decided to clone the game themselves for the US market. Calling the game Night Racer, the company then sold this clone to both Atari and Midway. Atari created their game called Night Driver and Midway created theirs called briefly Midnight Run, before they changed it to 280-ZZZAP, when they got the Datsun car license.

Meanwhile poor Dr Foerst and his game, that had so blatantly been copied looked on with anger. They did try to sue Micronetics Inc, but with the US courts upholding that it wasn't a clone, as they had put it on a micro chip, there was nothing they could do.



### Datsun 280-ZZZAP or Midnight Run

Released in November 1976. This was the Midway license of the Micronetics game. A video of the game in action can be seen here :

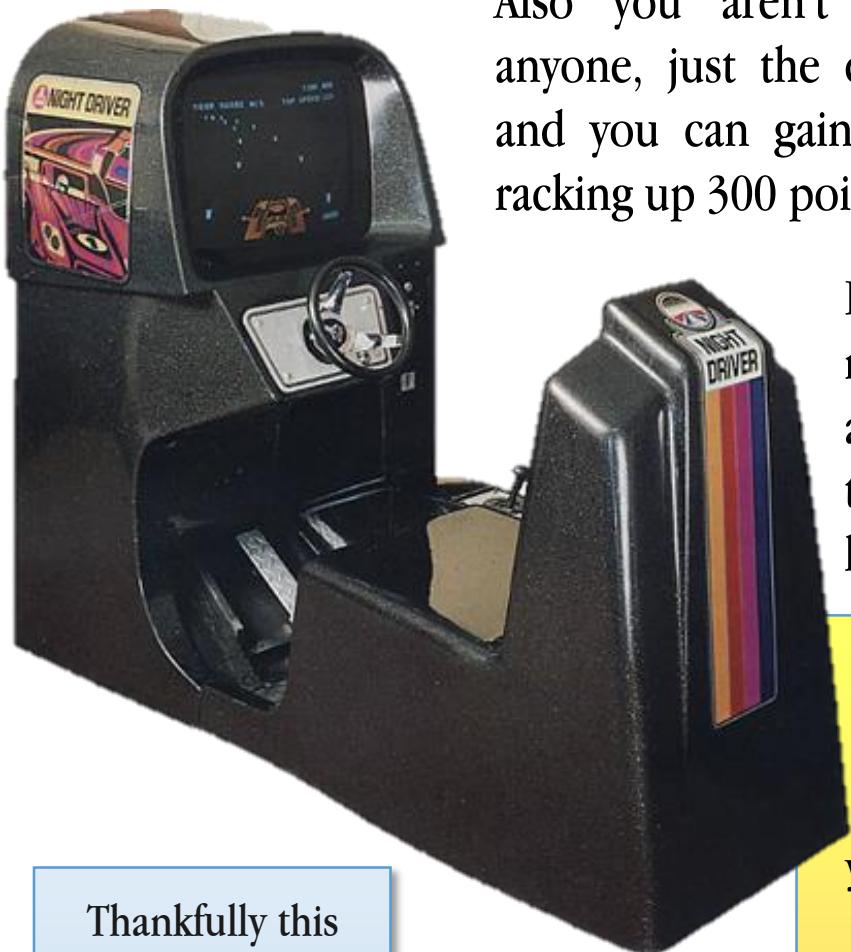
<https://youtu.be/EPJBCOiVDrg>

The game is emulated on MAME.

Of the three games, Atari's clone was definitely the best though. Placed in an upright or deluxe sit down cabinet and both with a cool 4 speed gear and a choice of three tracks of differing difficulty to race upon. The Driving experience for gamers had never been so accurate.

In the game you played the driver, who must drive in the pitch black, with only the side reflectors lighting up the side of the road. The game's simple graphics actually work in its favour, with the car being just a screen sticker and your mind filling in all the blanks. This simplicity allows you to generate impressive speeds in the game, that wouldn't be recreated until almost a decade later.

Also you aren't actually racing against anyone, just the clock. Race well enough and you can gain more bonus time after racking up 300 points.



Thankfully this wonderful game is emulated on MAME.

It is a compelling gameplay mechanic, that keeps you always playing, and trying to improve your score that little bit more.

### Night Driver (1976)

The Atari sit down cabinet, is a wonderful experience if you are lucky enough to get a chance to play it. A nice review of it being played at Funspot, can be found here..

<https://youtu.be/HnS1O0-cyfc>

Those may have been the best and most popular games released by Atari this year, but there were other fun ones as well :



### Cops 'N' Robbers (1976)

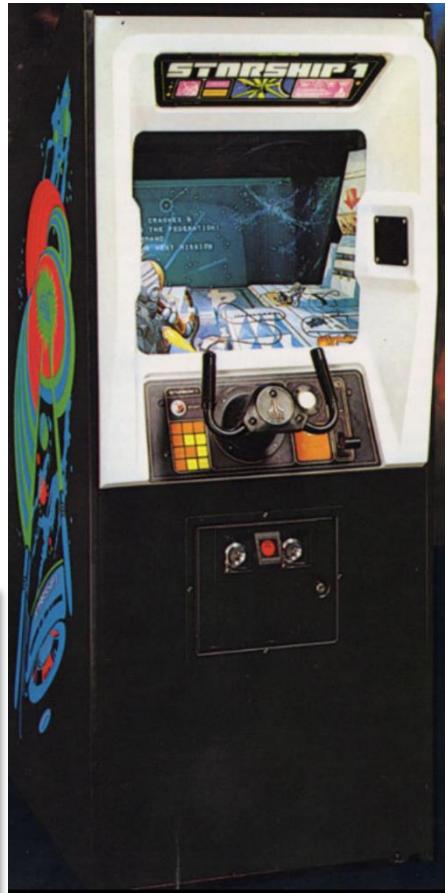
An interesting Gunfight rip off, where you could play up to four players. The idea is each player takes control of either a cop car (on the left) or a robber car (on the right) and the purpose of the game is to fire at the opposing cars. As in Gunfight, each player can direct the shot direction as well as move the car, up and down. Shots can also ricochet off of the side of the screens, and trucks that run down the middle of the screen act as shields. Incidentally, the game was black and white, with colour plastic stuck on the screen, to simulate coloured sprites.

The game is quite a bit of fun really, and is shown emulated here in this brilliant review : <https://youtu.be/keUdm4Di2d0>

Thankfully the game is also emulated in MAME.



**Le Mans (1976)**  
Atari would expand its ideas on its Sprint series. This would actually have the player race across ten different tracks in the game. A video of it being played can be found at the brilliant Outer World arcade web site here : <http://goo.gl/nZlhSv>



### Starship 1 (Late 1976)

This was a really interesting game this year by Atari. Set again in the first person, the game had you shoot alien ships for points. The game is simulated on MAME, but loses the haunting glow of the original arcade game. A video of the arcade can be seen here :

[https://youtu.be/2o\\_zHDtRwZA](https://youtu.be/2o_zHDtRwZA)



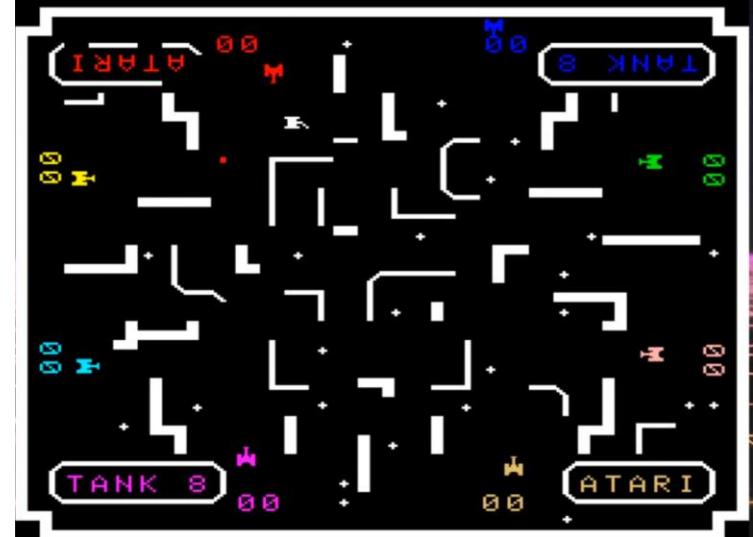
The game is on DICE.

**Stunt Rider (1976)**  
I really love this game, with you having to speed through a course and tackle ever longer jumps. A wonderful video of the game can be found here..  
[https://youtu.be/zU\\_Up648\\_kU](https://youtu.be/zU_Up648_kU)

# TANK 8

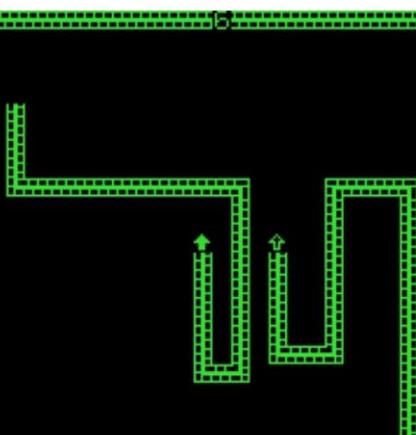


The game is thankfully available to play on MAME.



## Tank 8 (1976)

One arcade game I have always wanted to play on original hardware, is this Kee Game's classic. This is essentially Tank, but with up to 8 people to play at the same time, for the ultimate party game.



## Blockade (1976)

The original Snake game was released by Gremlin (not the 8bit/16bit publisher). In this 2 player game you had to move an ever moving and growing shape to block your opponent. A video can be seen here :

<https://youtu.be/5v-0CwiabZA>

## The money magnet.

Put it on location, plug it in . . . and watch it pull in the coins! BLOCKADE™! The trailblazing smash hit of the MOA and Park Shows, fast becoming the "must have" new game of the year! Here's the great original . . . featuring Gremlin innovation, Gremlin engineering, Gremlin quality. BLOCKADE!

### Designed for Player Appeal!

A screen that's ALIVE with bright action. Even when it's not being played, its advertising sequence COMMANDS attention!

Irresistible SOUND! Easy to learn, and CHALLENGING . . . no two games are alike!

### Designed for Low Maintenance!

Gremlin-clean electronic design and layout. Rugged Motorola monitor. Any major system component can be REMOVED IN LESS THAN 60 SECONDS!

### Designed for Your Convenience!

Unique E-Z ADJUST™ CONTROL PANEL right inside the coin door is at your fingertips, for no-fumble setup of game length or to kill the "BOOM!" sound during advertising.

Another performance achievement of Gremlin's solid, common sense engineering!



### Designed for Powerful Profits For You For Years!

\* 1977 Gremlin Industries, Inc.  
Gremlin's BLOCKADE™ Patents Applied For.



**Gremlin™**  
The games people really play.

The game is available to play on MAME.



The game is available to play on MAME.

## Barricade (1976)

Of course such a great idea as Blockade would be quickly be replicated. Ramtek's version did a shameless copy, but added up to four players able to play.

<https://youtu.be/aAk9i0FzHHY>

## Big Foot Bonkers (1976)

Meadows version of the game, involved the same idea as Blockade, but added in randomly walking Big Foot footprints, that also had to be avoided. A great video of the original arcade can be found here

<https://youtu.be/OIorS22v60M>



The game is available to play on MAME.



## F-1 (1976) dev. by Namco

Ok technically this game is electro mechanical really, projecting the graphics. But wow this game is beautiful. Here it is in action :

<https://youtu.be/i1WSYdn1b8I> Interestingly the game is shown in the 1978 film Dawn of the Dead by George A. Romero. It is 1:33:44 minutes into the film, and is a great chance of seeing what was in arcade at this time. They also show Quak, F1 and Gun Fight .



The game is also available on the emulator MAME.

Thankfully it is another game emulated on MAME.



### Sea Wolf (1976)

Also by Midway was this, a kind of digital version of SEGA's Electronic Mechanical game Periscope. In the game you had to fire torpedoes at the enemy ships and submarines, whilst avoiding the mines. It is a fun game, but perhaps most noticeable today for being the first game to have a high score.

A video of the game can be seen here :

<https://youtu.be/CfAkb3LGq9s>

### Amazing Maze (1976)

A great two player game, that had each player try to negotiate a randomly generated maze, getting to the other players gate first.

Here is a great video of the game being played :

<https://youtu.be/KITGPAKABlY>



The game is emulated on MAME.

### Tornado Baseball (1976) Also known as Ball Park.

Flyball may have been released just before (but that only had two men on screen), so technically this was the first real, video game representation of Baseball. A lovely video of it can be seen here :

[https://youtu.be/26LIVZre\\_9k](https://youtu.be/26LIVZre_9k)



## Bombs Away (1976) by Meadows

A cute little arcade game that had an automatically controlled bomber plane fly across the top of the screen. The player then had to simply press the bomb release and try to aim for the fast moving ships below. The player can only release a single bomb at a time and so this means the player must carefully line up each shot. Sadly the game remains unemulated. A wonderful video of this rare game in action can be seen here :

[https://youtu.be/ZnJU\\_IVNSfw](https://youtu.be/ZnJU_IVNSfw)

## Bi Plane (1976) by Fun Games Inc. and Ace (1976) by Allied Leisures

Another sweet littler shooter a bit like Jet Fighter. This game had you control two biplanes who must battle it out. A neat touch on the clone Ace was that on shooting the plane additional points could be awarded for also shooting the parachuting pilot. Bi Planes also had a 4 player version called Bi Plane's 4.



A vid of: Biplane : <https://youtu.be/hEKVGHu-Frk>  
Ace : <https://youtu.be/OwCtRBvqplA>

Sadly only Ace is currently emulated on MAME.

As before, it wasn't just in the arcades where video game frontiers were being broken. Over in the world of computing a certain Will Crowther would wow the world with his innovative new game.

Called Colossal Cave Adventure or simply just Adventure, the game had come about after Will had recently divorced from his wife in 1975 and was looking at a way to create a game for his two daughters, so that it might help him feel less estranged from them. As a family of keen explorers of caves and potholes in real life, Will thought it might be fun to create a simulated version of it, for his daughters to enjoy.

That may have been the end of the story, with Will's rudimentary cave exploring game left on a server somewhere. But thankfully Don Woods happened to stumble on the game and loved the idea of using key verbs and words to explore, and so asked Will Crowther permission via email to work and extend the program. He added more verbs and more detailed descriptions, and the worlds first true text adventure and the interactive fiction genre had been created.



**Will Crowther**

Would create the worlds first verb based text adventure game



**Don Woods**

Expanded on Will Crowther's game in 1976.

```
Colossal Cave Adventure • Score: 36 • Turns: 2
Please answer the question. Would you like more instructions?
> y
Somewhere nearby is Colossal Cave, where others have found fortunes in treasure and gold, though it is rumored that some who enter are never seen again. Magic is said to work in the cave. I will be your eyes and hands. Direct me with commands of 1 or 2 words. I should warn you that I look at only the first five letters of each word, so you'll have to enter "Northeast" as "ne" to distinguish it from "North." (Should you get stuck, type "help" or "info" for some general hints).
You are standing at the end of a road before a small brick building. Around you is a forest. A small stream flows out of the building and down a gully.
What's next?
```

A brilliant online version of the game can be played here : <http://goo.gl/yHQcvM>

Phew, so far 1976 has been quite eventful, and yet by November a wonderful final innovation would be released in time for Thanksgiving and Christmas.

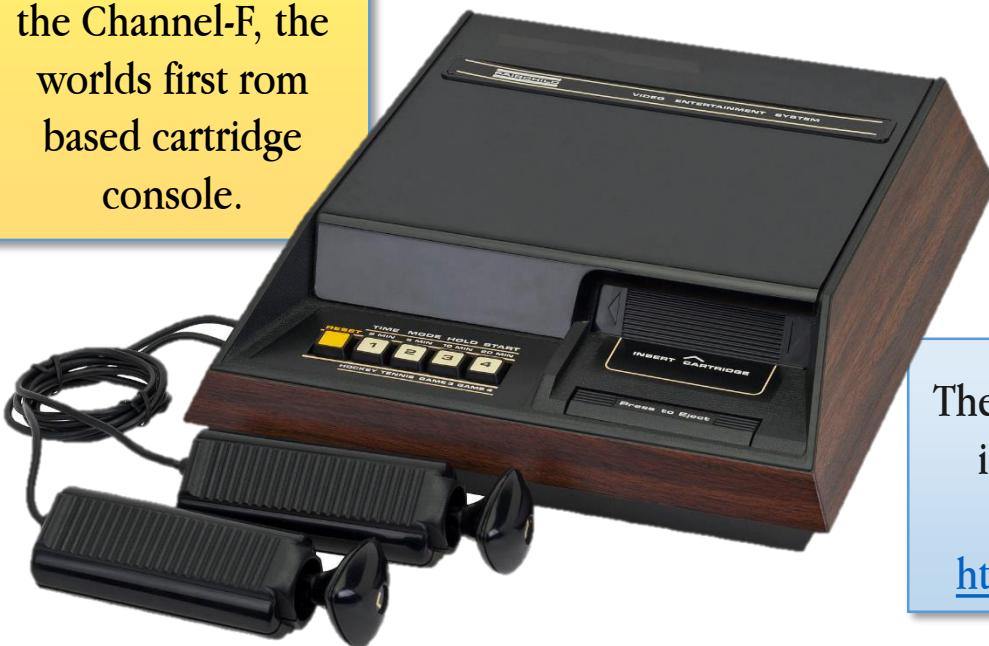
Called the Fairchild Channel-F (the F stood for fun), it would be the second games console released with interchanging game cards (or in this case cartridges). What was extra special though about this console, was that unlike the Magnavox Odyssey that only changed a game's parameters, these game cartridges could hold their own entirely unique games on their own rom chip. Created by Jerry Lawson, an incredibly

smart individual, he had originally joined the Homebrew computer club (who Steve Jobs and Steve Wozniak were famously members of), and would then have some reasonable success writing such games as the Destruction Derby game. The Fairchild Channel-F machines sold for \$169 originally (about £480 in todays money) and included two integrated games Tennis and Hockey. Initially 4 additional game cartridges also went on sale for \$19.99



**Jerry Lawson**  
( 1<sup>st</sup> Dec 1940 –  
9<sup>th</sup> April 2011)

Would be the brainchild behind the Channel-F, the worlds first rom based cartridge console.



All in all 26 additional games would go on sale up until 1981.

The Fairchild Channel-F is emulated on the MESS emulator :  
<http://goo.gl/qweFNZ>

As this is such an important revolution in video gaming history, let us look at this great pioneer Jerry Lawson in more detail.

Born on the 1<sup>st</sup> December 1940, Gerald Anderson Lawson grew up in Queens in New York City. Both his father and grandfather were exceedingly interested in science and engineering and very gifted themselves. But of course in their generation being black was even harder to enter the field of science, and so his grandfather worked as a post master at the post office and his father on the docks, loading and unloading the ships. Still he remembers his father relishing any moment he could to learn about science and technology and this would rub off on his young son Jerry.

Growing up Jerry would show a natural flair for building electronics, becoming an amateur HAM radio enthusiast and building his own radio devices. Aged 16 he would even put his skills to good use, selling fellow kids walkie-talkies that he had built himself and fixing broken down TV sets. Spending all his local time at the local electric stores and using his meagre allowance on electrical pieces, one component at a time.

Aged twenty Jerry would get his first taste of computers at his job at Federal Electric IIT. He was sent on a training course there and got to see a Forest 65L computer (as Jerry remembers the name). A military computer monolith, literally built into a mountain and designed for launching nuclear warheads. In fact it was the computer that featured in the 1964 movie *Fail Safe* starring Walter Matthau.



Fail Safe (1964) was a thriller film about nuclear warfare and launching nuclear attacks. It also featured the computer Jerry Lawson first worked on.

After IIT, Jerry would work through his twenties, at a number of companies, doing jobs like compiling Vtram for PDR Electronics. Eventually he got a job with Kaiser Electronics which made him move from the East Coast across to the California West Coast of America.

By 1970, Jerry would leave Kaiser Electronics and join the semiconductor company Fairchild. Jerry would do well there going from being a freelance engineer to a lead engineer in only a few years and was already making a name for himself as an expert in the field of computing. He would even become a regular active member of The Homebrew Computer Club, a monthly meet up of computer pioneers at the Stanford Linear Accelerator Auditorium. This club is best known today for famously having Steve Wozniak and Steve Jobs first show their Apple 1 computer in early 1976. Jerry Lawson was never particularly impressed with the duo technically. In fact in the 1973 when Steve Wozniak was still at Hewlett Packard, he would go for a job at Fairchild to work under Jerry Lawson as an engineer. Jerry really wasn't impressed with Steve and in fact convinced the other engineers as part of the interview process not to hire him.

**NEWSLETTER**

**Homebrew Computer Club**

Robert Raileg, Editor □ Post Office Box 626, Mountain View, CA 94042 □ Joel Miller, Staff Writer  
703-3889

Computer courtesy... E. B. help him get it early" in the 8 236 Lakeside. Did you see Bob Marsh at design that will users alike. It's 6280 Hollis Street and open. The OBI by customers (five mostly major future. There a 1976. Vol. 1, N



See J. L. Gleason, Member who always says "I want to start my own company and can't do it. We have some games Contact the Homebrew Assn. At 703-3889. Since our last meeting has been Conference 8-10, 1977, I would like to see what will be held in Chris Auditorium would

By 1972 the company DEC would even give Jerry a PDP-8 computer, as part of the agreement that he would train engineers on how to use the system. This when combined with an Altair 8800 and ASR-33 computer also in his own garage would make Jerry Lawson well ahead of the computing.



**DEC PDP-8 Computer.** Jerry Lawson was lucky to be able to have one of these on loan from DEC in his garage, so he would be able to train other engineers how to use the computer system.

Being on the West coast of America, put him at the centre of the video game industry as it exploded, and Jerry quickly became friends with Nolan Bushnell, Al Alcorn and Ted Dabney at Atari. He particularly found a kindred spirit in Al Alcorn, and so got to see the development of the game Pong.

So in late 1972 when Fairchild started doing tests on creating new micro processor chips (called the F8) he saw his opportunity to take one that was planned to be binned home with him. On that micro chip he would write his very first game in his garage called Demolition Derby. Now this is important as technically this is the first game ever placed on a micro chip, although not commercially sold. Sadly very little is known about the game today. We know the game was sold to Major Manufacturing in 1973 and some prototypes were made, but given that the F8 microchip only went on sale in 1975 and was a secret in 1972, it is most likely Jerry would have taken it off the microchip and on to TTL circuitry before selling it. Certainly specialist magazines made no mention of the arcade game, which they most certainly would have, were it to be on a micro processor chip.

What we do know, was when Fairchild found out that one of their microchip prototypes was in Jerry's garage and he used it to make a game, he was in serious trouble with them. But as the furore began to settle and Fairchild began to see the huge success of the Atari game Pong and Magnavox Odyssey , they spoke to Jerry about heading up a secret project to make video games, specifically a home console.

Work started on this new console, but it was perhaps another company Alpex, often forgotten in the history of video game's that should now be mentioned.

Lawrence Haskel and Wallace Kirshner working for Alpex, were also looking to design their own game console. Called the RAVEN (Remote Access Video Entertainment) system. It was during this development that they came up with the idea to place games on EPROM (Erasable Programmable Read Only Memory) chips to allow games to change on the console. You see traditionally EPROM chips were only used for development, to speed development time up. Programs would be written on the EPROM and then when complete would be hardwired onto the main circuit board. Haskel and Kirshnel's idea was to place the delicate EPROM on to a circuit board and connect the circuit to the chip with a robust series of metal connectors. This meant a game could be plugged into their RAVEN console and be changed. It was a revolutionary concept in gaming, and one the duo were excited about.



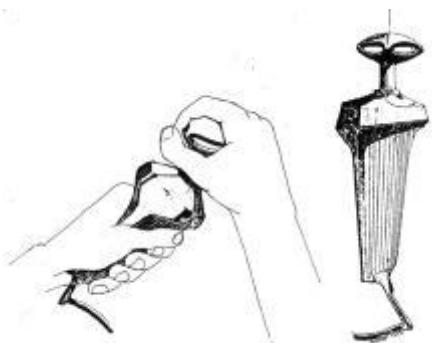
Lawrence  
Haskel



notes taken  
about the RAVEN  
console.

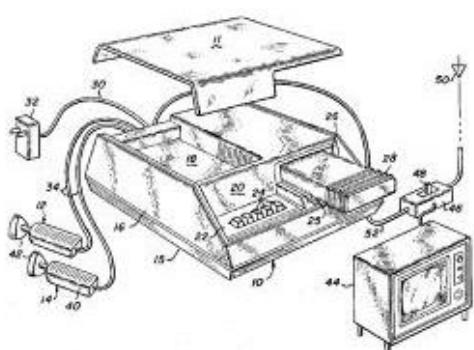
They took their console ideas to Alpex's boss Norm Alpert. He could see the viability of the idea, but knew that Alpex simply didn't have the funds to release such a product. So Alpex and the team looked for a potential buyer. When Fairchild saw the RAVEN console they were mightily impressed and sent Jerry Lawson to look at the device. Jerry was impressed as well and helped them move the RAVEN console from the Intel 8080 chip and onto the Fairchild's own F8 chip and then they were in business.

Now called the STRATOS console and with the Alpex guys working with Fairchild engineers, they would go into overdrive.



Jerry Lawson's design for the controller for the new console.

Jerry Lawson would be instrumental in helping reform the RAVEN console ideas into the Fairchild console we know of today. He would take the RAVEN's clunky keyboard controller and design the impressive handle joystick of Fairchild console. He also added a button on the controller to pause the in game action, another first this console achieved that is often overlooked.

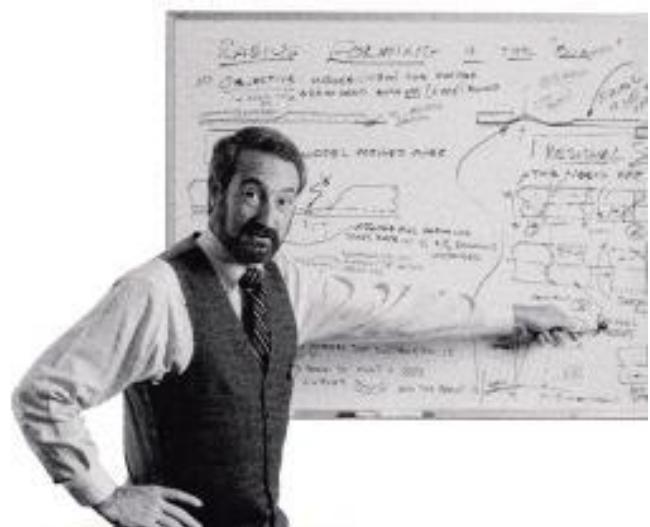


Schematic design for the Fairchild new console.

So with their initial designs they went to the Fairchild executives to get the true funding needed to make this new gaming console. An internal report predicted 5.5 million consoles sold and \$220 Million in sales by 1978. Needless to say the console eagerly got the green light and Jerry and his team would set to work.

Now called the Fairchild Video Entertainment System or VES, development went on full steam. One of the biggest issues they faced (outside the worry of safety to the consumer), was that the act of plugging and unplugging the games would generate sparks that occasionally would take out semi conductors. They were stuck and needed help in solving this electrical problem. Step forward another pioneer forgotten today, Ron Smith.

He worked at National Semiconductor before joining Fairchild and was perfectly placed to solve the problem. He would design the plastic feed in mechanism on a spring that delayed the connection, that has been used ever since on cartridge game consoles. In fact Ron Smith would hire Doug Hardy to help him implement the designs for the Fairchild console and it would be Doug who would leave to join Atari and help design the cartridge mechanism for the Atari VCS console (all be it the designs were suitably different enough to avoid Fairchild suing Atari).



Ron Smith is a true forgotten hero of video game history. His work and designs on cartridge based gaming has been used ever since.



Former Fairchild employee Doug Hardy would leave to join Atari, and help them design their own game cartridge mechanism for the Atari VCS console .

Now they had the mechanism in place, Nick Talesfore the designer of the Fairchild-F outer casing was asked to come up with a striking protective plastic sheath for the games and make them stand out. Inspired by the Track 8 music cartridges that were popular at this time, he would shape the cartridge to be this shape and only adding grips to the design.

The console was now complete, and going through a last minute name change from the Fairchild VES system to the Fairchild Channel-F (where F stood for fun). The new console would first go on display in July 1976, at the Chicago Consumer Electronic Show and impressed many attending. Another big boon for the console also came in July that year when the widely circulated magazine Business Weekly did an article called “The Smart Machine Revolution” that showcased revolutionary products, and included the Fairchild Channel-F as one of these devices.



The Fairchild Channel-F game cartridges (shown left) striking design was in large thanks to the Track-8 music tape cartridges that were popular in the US in the mid 60's..

A special note should go to the [vintagecomputing.com interview](http://vintagecomputing.com/interview) with Jerry Lawson in 2009 and the brilliant [Fastcompany.com](http://fastcompany.com) in depth article on the Fairchild system of which my own article is based.

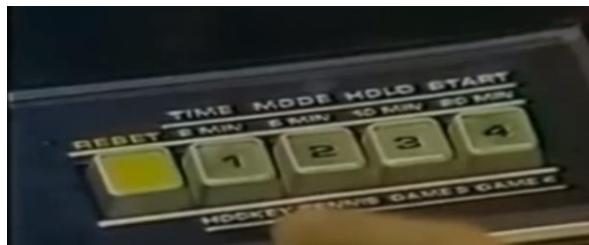
The machine only sold 350 thousand units in its short lifetime. Whilst it was amazing on its release, as soon as Atari released their console in September the following year, they simply couldn't compete.

Still, the machines importance as the worlds first ROM based cartridge system, cannot be overstated.



The Channel-F controller was quite unique, with a mini joystick on top, that can additionally twist to act as a paddle.

### Built in games included with the console



As well as allowing additional cartridges, the game would also have two games that came with the console and selectable at a push of a button.

#### Game 1 – Pro Hockey



Built in game, being a nice Double Pong variant with two controlled bats that could be angled. A video can be seen here : <https://youtu.be/a45lmvaA3KI>

#### Game 2 – Tennis Champ



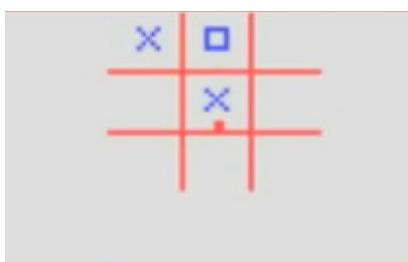
Built in game, being a nice Pong variant. A great video of the game can be seen here :

[Video Link](#)

## Additional GameCarts you could buy for the console.

The console would have 26 additional game cartridges released from 1976 through to 1981. But without the game quality of the Atari VCS console released the following year, the machine never stood a chance. Here are the three games released in 1976 for the console :

### On Gamecart 1 – Tic Tac Toe, Shooting Gallery & Quadradoodle



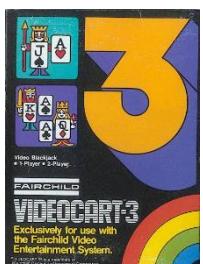
Released in 1976 and of the three Shooting Gallery is the best with you timing your shot to hit a moving target. Quadradoodle was a simple drawing tool. A great vid of the games is [here](#).

### On Gamecart 2 – Desert Fox & Shooting Gallery (same as Gamecart 1)

Also released 1976, Desert Fox is a simple version of Tank. A vid of the game is [here](#).



### On Gamecart 3 – Blackjack



The final 1976 cart, a computer version of Blackjack. A vid can be seen [here](#).

In many ways the Fairchild Channel-F was a superior game console to Atari VCS console. It was certainly better than the RCA Studio II console released in January 1977.

But factors like the \$100 million dollar budget of Warner Communications for the Atari console, combined with Atari being so synonymous with many of the classic arcade games of the day, made it a tough console to compete against.

I think another large contributor to the Fairchild Channel-F's limited success was a conscious choice of Jerry Lawson and the Fairchild executives not to have shooting games initially. Jerry firmly believed that games should be something more, a constructive addition to the player, something of value. Sadly in a world where most gamers simply wanted to shoot stuff this didn't fit well with most gamers.

The company would release the Fairchild Channel-F 2 – Video Entertainment System in 1978, before soon admitting defeat with the runaway success of the Atari VCS console and stopping production of the console.



RCA Studio II would be released a month later before stopping production 10 months later.

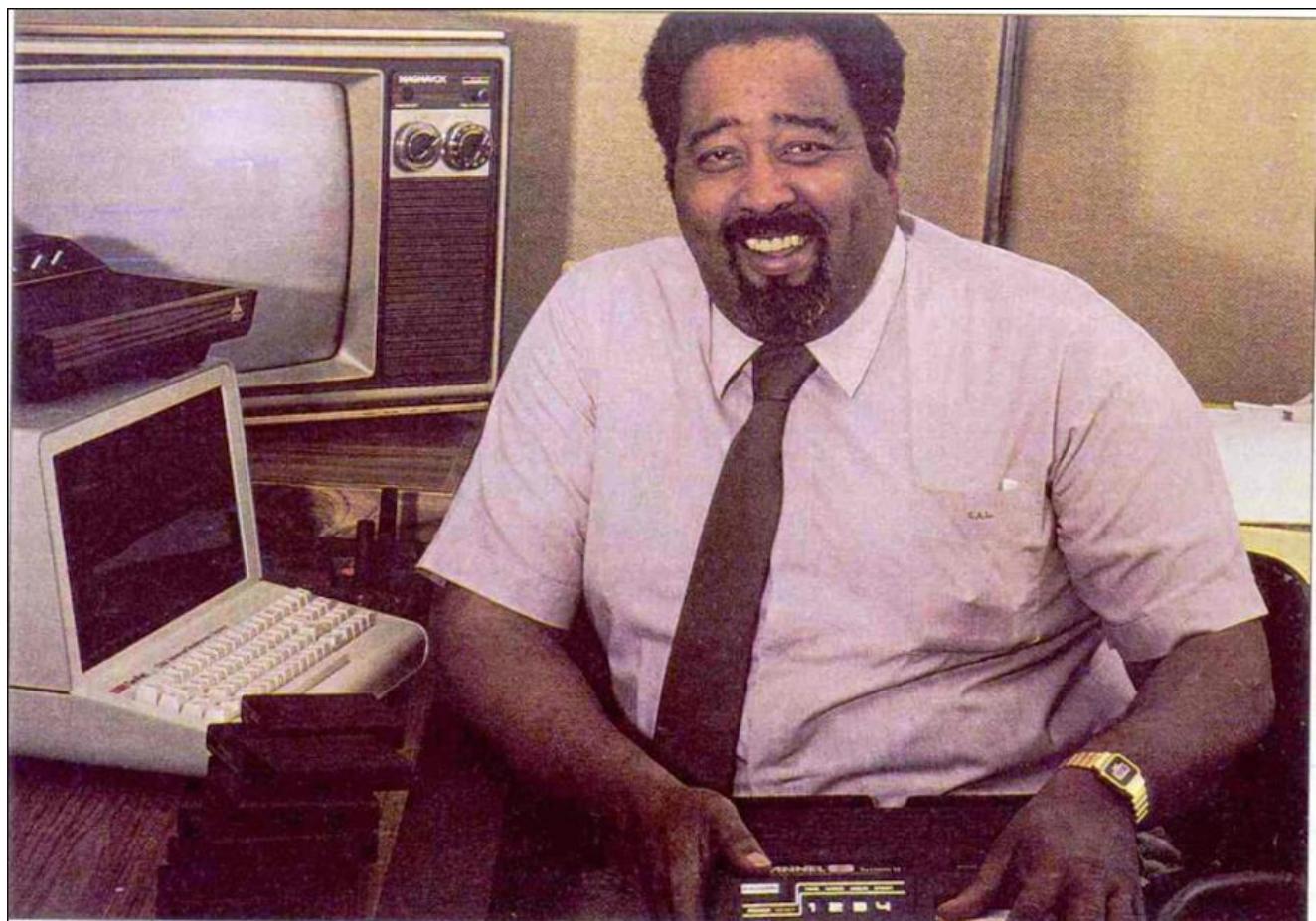
Channel-F II cheaper redesigned console released in 1978, sadly it did little to improve sales.

Incidentally in 1986 Alpex Computer Corporation attempted to sue Nintendo for infringement of their cartridge loading patent. They initially won as well.

But in a legal system where only money counts, Nintendo was able to simply appeal each time the case was won by Alpex until they hit bankruptcy.

In 2000 taking 11 years and many years after Alpex went bankrupt the US Supreme court eventually passed the verdict in Nintendo's favour as not infringing the patent.

Sadly Jerry Lawson would pass away on the 9<sup>th</sup> April 2011 aged 70. He was a true pioneer in video games and he will be sorely missed.



Well there you go, that was the first book in the first years of video games. Of course in this first book it needed to cover multiple years, to take us to the year 1977 when video games truly exploded and started to enter its first golden age.

So onto the next book... This will cover the year 1977 and it is an exciting year, with the Bally Astrocade, Apple 2, Tandy TRS-80, Commodore Pet, Nintendo Color TV Game 6, RCA II all being released. Oh and Atari would release their own console The Atari Video Computer System or VCS, and do rather well.

All of that is even before we start looking at many of the amazing games like Combat and Zork and some classic films like Star Wars.

So come and join me, as I take you through this fascinating journey of video game history, hope to see you there?

So until next time see you later.

**Paul Driscoll A.K.A. The Drisk**

**Twitter : @TheDrisk**

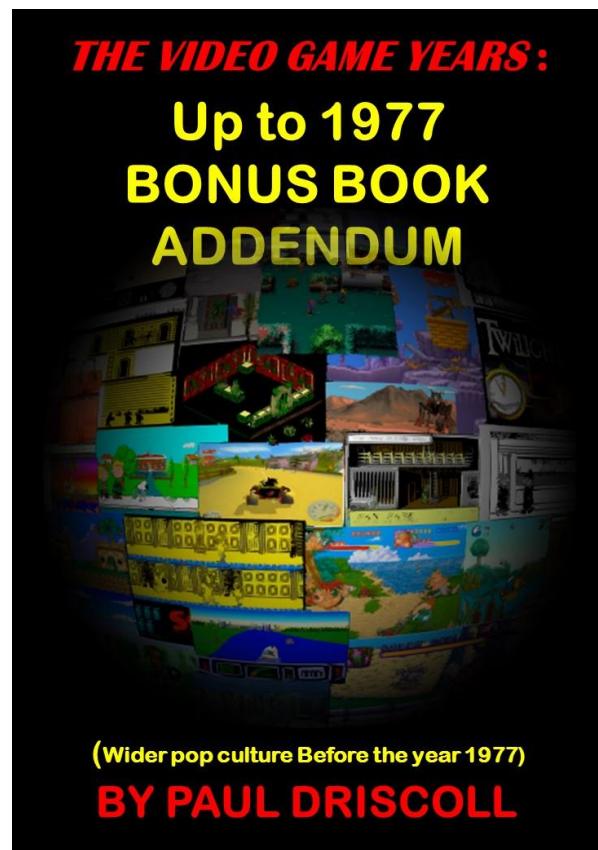
An additional bonus companion book is available for free to this book should you wish to read :

<https://goo.gl/jCyx7x>

The idea of this bonus book was that I wanted to give the reader a wider range of games covered, by additionally looking at the popular culture of events and characters that accompanied the period.

The plan is to allow the reader to see great games that relate to either the wars of those period or famous cartoon characters, toys or films and any video games that relate to it. This I hoped would give a wider interest of topics and additional content for the reader.

The trouble was that for this first book it proved problematic, as unlike subsequent books in the series that only cover a single year, this first book covers from the 40's through to the first half of the 70's and so that is a crazy amount of cartoon, comic, toys, wars and TV shows to cover. Quickly it began taking over the initial book, and began to feel far too jarring for the reader. So the solution it was felt, was to offer it to the reader as a completely free and separate book, a book that is there only if the reader wishes. It is my fond hope it still remains a fun read and help to highlight some hidden gaming gems for you all on some of our most beloved and favourite popular culture icons.



# Special Thanks

This book wouldn't have been possible without the brilliant retro gaming community. It is the hard work and talents of all those people who work to tirelessly collate and detail our video game history. Particular people and sites I wish to thank are...

[Moby Games](#)

[Retro Gamer](#)

[World of Longplays](#)

[Evan Amos : Vanamo Online Game Museum](#)

[Amiga Magazine Rack](#)

[Hall of Light](#)

[World of Spectrum](#)

[Lemon C64](#)

[Pong Story](#)

[Atari Age](#)

[Wikipedia](#)

[The International Arcade Museum](#)

[The Arcade Flyer Archive](#)

There are countless other sites as well and I doff my cap to all of you. Thank you for wonderful work in cataloguing the video game history.

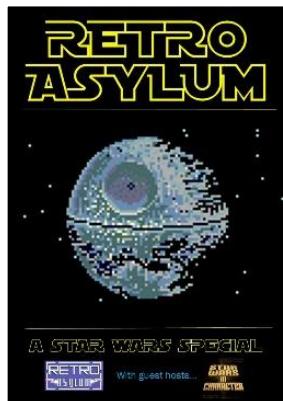
Special greets go to Shaun Holley of the [Ten Pence arcade podcast](#), when I told him of my project he didn't even blink before offering up tonnes of his own research to help with the book. Also Mads Darø Kristensen, for his much needed help in proof reading. I also want to greet all the people at retro gaming podcasts [RGDS](#), [Super Podcast Bros](#), [Retro Asylum](#), [Retro Game Squad](#), [The Retro Hour](#), [Maximum Power-up](#) and [Dreamcast Junkyard](#) to name a few. There are a load more, but thankyou to all for your amazing efforts in sharing your memories and knowledge about video games of yesteryear.

# Other Stuff By Me

Several years ago I attempted to tell the history of video games on You Tube. I still think it is even today the most detailed video game history in video form still ever created.

<https://www.youtube.com/playlist?list=PL06EE2A78519033F3>

## Some Free Books By Me

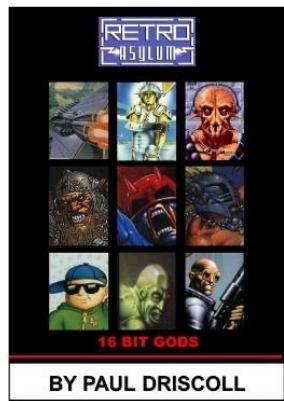


### A STAR WARS SPECIAL

Every single Star Wars video game ever released (well as good as). All lovingly detailed with screenshots and histories of all its games.

A must for all retro gamers and Star Wars fans alike. I believe this is probably the best book I have written to date.

<https://goo.gl/D7UvHz>



### BITMAP BROTHERS SPECIAL

Every single Bitmap Brother game in the 16-Bit Amiga and Atari-ST era is covered in-depth for you to enjoy.

<https://goo.gl/6h9X0h>

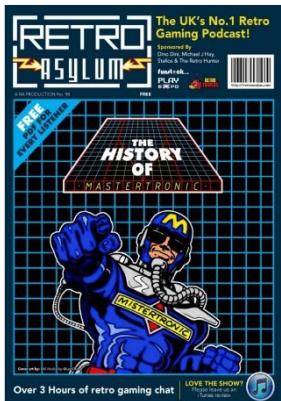


## THE HISTORY OF PSYGNOSIS

One of the most prestigious game publishers the UK has ever produced. This book not only lovingly tells the history of how the company was formed, but even takes you through to Sony days and its sad closure.

And if all that hasn't got you weeping for joy, then perhaps the Psygnopaedia detailing every game they ever released will get you excited.

<https://goo.gl/4LLAqG>

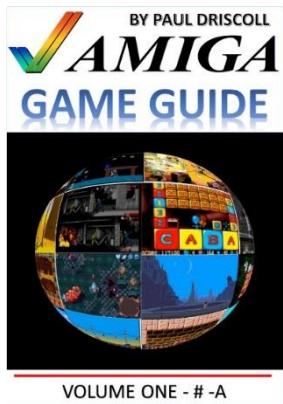


## THE HISTORY OF MASTERTRONIC

The publisher that created the concept of pocket money games gets looked at in-depth. Learn how the company would help in the creation Codemaster's and even help Sega be a success in the home console market.

And again if that wasn't enough, every game (well almost) has been loving reviewed in the Masterpaedia. Showing all those gorgeous games.

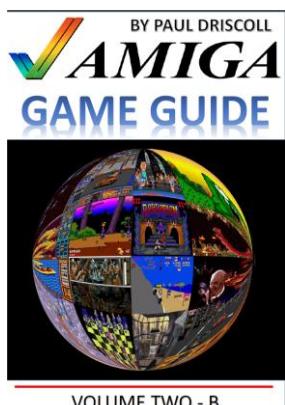
<https://goo.gl/jBrnKl>



## AMIGA GAME GUIDE Volume One - #- A

Every single Amiga game beginning with a number or the letter A. Each game has been lovingly reviewed, with snippets of what all the game magazines of the day had to say about the game. This book was a real labour of love and is a great way to look through some of the obscure Amiga hidden gems, along side the famous classics.

<https://goo.gl/WAjhNf>

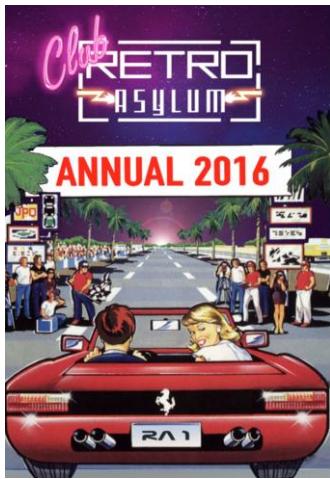


## AMIGA GAME GUIDE Volume Two - B

Every single Amiga game beginning with the letter B. The book also includes a fascinating history of the Amiga as well. Like the first, it makes a really fascinating read, and some real hidden gems.

Sadly I stopped doing the series due to lack of interest in the books. So if you wasn't me to continue the series and make my way steadily through the alphabet, then let me know there is enough interest for me to do so. ☺

<https://goo.gl/y3CnuO>



## CLUB RETRO ASYLUM – ISSUE ONE ANNUAL 2016

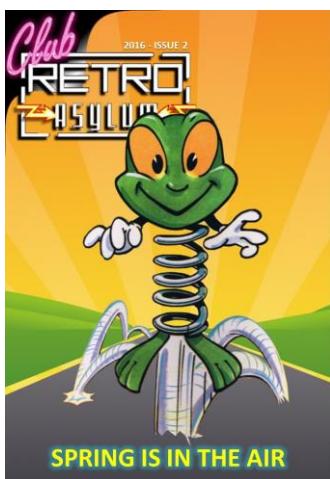
This looks at Outrun, Super Star Soldier, N2O Games-X, Klonoa and even includes a fab free Retro Game inspired party board game for you all to enjoy.

**PDF link:**

<https://goo.gl/6LwJoQ>

**Flip Book version link:**

<https://goo.gl/NKXbdW>



## CLUB RETRO ASYLUM – ISSUE TWO SPRING SPECIAL

A great issue, with Zelda Anniversary and contributions from various readers covering such classics as Street Fighter 2 and WWF.

**PDF link:**

<https://goo.gl/N3JBnL>

**Flip Book version link:**

<https://goo.gl/Wzx7aQ>

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<http://www.bbc.co.uk/news/uk-13085653>

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Pg 45 – 46 – Analogy screenshots from the Angry Video Game Nerd Magnavox video <https://youtu.be/pRuIwo0Zvbs>

Pg 45 – 46 – Skiing, Tennis, Hockey, Football screenshots taken from the Magnavox Odyssey advert on Fabyt  
[https://youtu.be/H2Elsonr\\_cv4](https://youtu.be/H2Elsonr_cv4)

Pg 45- 46 – Table Tennis, screenshot taken from the Magnavox Promotional Video <https://youtu.be/jLGBtkKPj2U>

Pg 45-47 – Haunted House, Simon Says, Cat and Mouse, Submarine, Roulette and States screenshots taken from Gameboy3800 brilliant video <https://youtu.be/uY6OaEmVuP8>

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Pg 48 – Video connector modern picture taken from Gameboy3800 brilliant video <https://youtu.be/uY6OaEmVuP8>

Pg 48 – video connector installation taken from the Magnavox Promotional Video <https://youtu.be/jLGBtkKPj2U>

Pg 48 – Man playing the Odyssey taken from the Magnavox Odyssey advert on Fabytv [https://youtu.be/H2Elsonr\\_cv4](https://youtu.be/H2Elsonr_cv4)

Pg 49 – Fun zoo screenshot taken from [www.videogameconsolelibrary.com](http://www.videogameconsolelibrary.com)

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Pg 50 – Invasion castle screenshot taken from [armchairarcade.com](http://armchairarcade.com)

Pg 50 – Invasion board game screenshot from <http://www.magnavox-odyssey.com/Invasion.htm>

Pg 50 -51 – Wipeout, Brainwave screenshot from <http://www.videogameconsolelibrary.com/pg70-odyssey.htm#page=games>

Pg 50 - 52 – Wipeout, Volleyball board game, Handball, Percepts, Basketball and Interplanetary Voyage from <http://www.magnavox-odyssey.com/>

Pg 50 – Soccer screen overlay from [eremarkus.tumblr.com](http://eremarkus.tumblr.com)

Pg 53 – Shooting Gallery Advert <http://www.giantbomb.com/images/1300-2758076>

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Pg 56 – Barrel Png alternate Cab - [http://www.arcade-museum.com/game\\_detail.php?game\\_id=13705](http://www.arcade-museum.com/game_detail.php?game_id=13705)

Pg 58 – Computer Space Ball - <http://www.computerspacefan.com/sb017a.jpg>

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Pg 59 – Crazy Foot Flyer - [http://flyers.arcade-museum.com/flyers\\_video/bally/63310501.jpg](http://flyers.arcade-museum.com/flyers_video/bally/63310501.jpg)

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Pg 59 - <http://www.arcade-museum.com/images/103/1034442621.jpg>

Pg 59 – Rally - KLOV

Pg 60 – Leader [http://www.arcade-museum.com/game\\_detail.php?game\\_id=8401](http://www.arcade-museum.com/game_detail.php?game_id=8401)

Pg 60 – Missile Radar - <http://flyers.arcade-museum.com/?page=flyer&db=videodb&id=1534&image=1>

Pg 66- Gran Trak 10 [http://flyers.arcade-museum.com/flyers\\_video/atari/11007701.jpg](http://flyers.arcade-museum.com/flyers_video/atari/11007701.jpg)

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Pg 66 – John Daleske - <http://www.cyber1.org/photolibrary.asp>

Pg 68 – SuperPong, Quadrapong <http://flyers.arcade-museum.com>

Pg 69 – Pinpong <http://www.arcade-museum.com/>

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Pg 79 – LaserClay Shooting <http://www.kotaku.com.au/2011/04/the-arcade-machine-that-made-and-nearly-broke-nintendo/>

Pg 72 - Maze Screenshot By Bruce Damer -  
[https://www.youtube.com/watch?v=ZgT9IgRlrvI&ab\\_channel=brucedamer](https://www.youtube.com/watch?v=ZgT9IgRlrvI&ab_channel=brucedamer), CC BY 2.5,  
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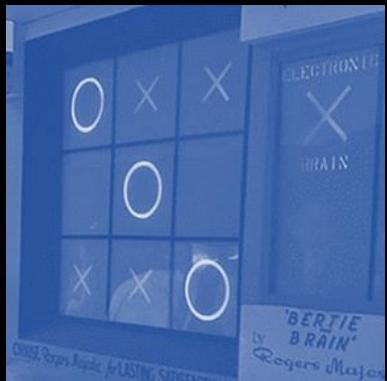
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Pg 75 – Jet Fighter and Anti Aircraft Flyer - <http://flyers.arcade-museum.com>

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By Evan Amos.
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- Pg 122 – Amazing Maze and Sea Wolf Cabinets – Modified from the - <http://flyers.arcade-museum.com>
- Pg 123 – Biplane and Biplane 4 cabinets [www.arcade-museum.com](http://www.arcade-museum.com)
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